United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with the University of Georgia, College of Agricultural and Environmental Sciences, Agricultural Experiment Stations, and the Flint River Soil and Water Conservation District

Soil Survey of Grady County, Georgia

How To Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

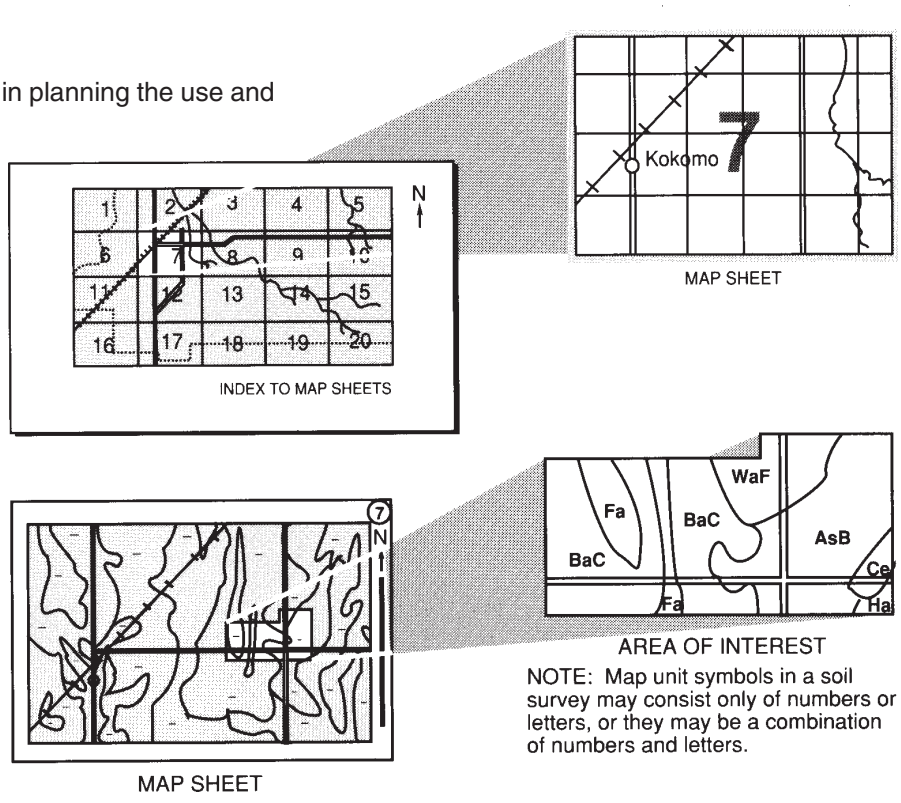
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1995. Soil names and descriptions were approved in 1998. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1998. This survey was made cooperatively by the Natural Resources Conservation Service and the University of Georgia, College of Agricultural and Environmental Sciences, Agricultural Experiment Stations, and the Flint River Soil and Water Conservation District. The survey is part of the technical assistance furnished to the Flint River Soil and Water Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Cover: Grady sandy loam, ponded, which supports many species of wetland vegetation.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

Contents

Issued 2005

Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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Soil Survey of
Grady County, Georgia

By Scott Moore, Natural Resources Conservation Service

Fieldwork by Scott Moore, Dennis Gay, Jerome L. Langlinais, Jorge L. Lugo, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with
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GRADY COUNTY is in the southwestern part of Georgia (fig. 1). Cairo, the county seat, is 200 miles south of Atlanta, Georgia; 50 miles south of Albany, Georgia; and 30 miles north of Tallahassee, Florida. Grady County is bordered on the north by Mitchell County, on the east by Thomas County, on the west by Decatur County, and on the south by Gadsden and Leon Counties, Florida. The total land area of Grady County is 294,300 acres, or about 467 square miles. The county is 34th in size among Georgia's 159 counties.

Grady County is in the Southern Coastal Plain Major Land Resource Area (USDA–SCS, 1981). The county sustains a strong economy based primarily on agriculture, forestry, and related manufacturing. More than 30 crops are grown on a commercial scale. The county ranked 18th in agricultural income in 1997 and ranked as high as 4th in 1992 (Richet and others, 1999). Grady county has a well-developed transportation system. U.S. Highway 84 transects the county from east to west. Numerous other State and county roads cross the county.

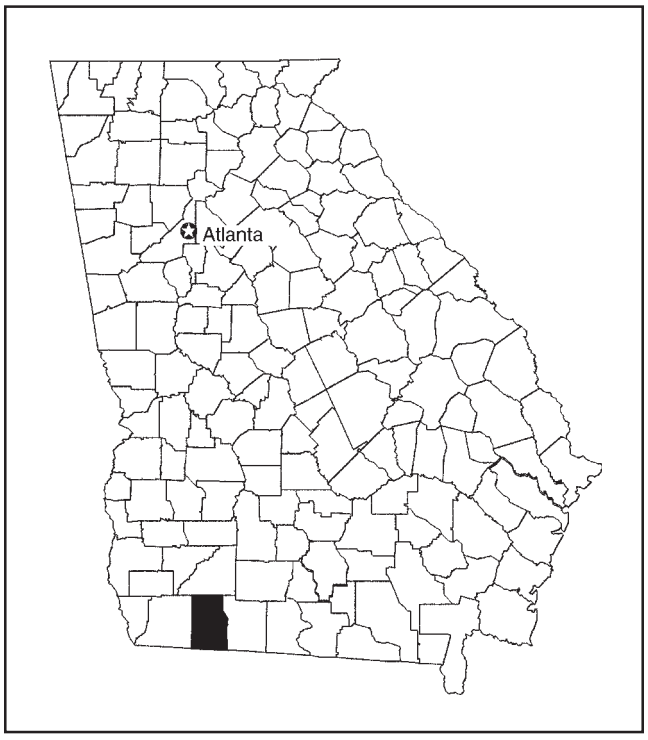

Figure 1.—Location of Grady County in Georgia.

General Nature of the County

This section provides general information about the county. It gives a brief description of the history and development, agriculture, water resources, mineral resources, climate, and geology.

History and Development

Grady County was established January 1, 1906, from portions of Decatur and Thomas Counties. It was named in honor of Henry W. Grady, an editor of the Atlanta Constitution and a southern orator.

In the early 1800s, William Hawthorn, a Baptist preacher and explorer, entered the area that is now Grady County. Finding the area to his liking, he and his

family settled along Tired Creek about 3 miles south of present-day Cairo (Connell and others, 1983).

Many of Hawthorn's friends and family sold their holdings in North Carolina and traveled down the Hawthorn trail, settling 10 miles farther down Tired Creek. In 1826, the Tired Creek Primitive Baptist Church was established. By 1828, numerous families had settled the area.

Agriculture

Agriculture has always been important to the economy of Grady County. Currently, 71,554 acres, or about 24 percent of the county, is cultivated. About 22,000 acres, or 8 percent, is used as pastureland (USDA, 1999). Major crops in the area include cotton, peanuts, small grain, and specialty crops, such as vegetables, nursery crops, and tobacco. Beef cattle, poultry, and pork are the sources of the majority of income from livestock. Forest resources and related products are also major economic inputs.

Water Resources

Grady County has an extensive series of branching drains as well as shallow depressions that collect surface water. The Ochlocknee River provides the primary drainage for the county. The major tributaries are Turkey Creek, Tired Creek, Little Tired Creek, Bennetts Creek, and Bryants Mill Creek. The area is underlain by an extensive aquifer system consisting of several layers. The shallowest layers are the Upper and Lower Brunswick aquifers, which are used for home and light-farm use and supply 10 to 30 gallons per minute. These layers are underlain by the Floridian Aquifer, which supplies 50 percent of the ground water in Georgia and supplies 1,000 to 5,000 gallons per minute. Below the Floridan Aquifer is the Clairborn Aquifer, which is a major source of water in southwestern Georgia. The Clairborn Aquifer supplies water for industrial and municipal use as well as for irrigation. Two other deep aquifers, the Clayton and Cretaceous aquifers, are major sources of water for industrial and municipal use. Grady County also has many small ponds and streams that provide water for livestock and irrigation (Tyson, 1993).

Mineral Resources

Economically-important minerals in Grady County include clay and limestone aggregates. Bentonitic clays are mined commercially in the southwestern portion of the county. Limestone that has value as aggregate is mined in the central portion of the county.

Climate

Prepared by the Natural Resources Conservation Service Water and Climate Center, Portland, Oregon.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Camilla, Georgia, in the period 1961 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season. The climate tables were created using data from climate station Camilla 3 SE, Georgia. Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from the first order station at Tallahassee, Florida.

In winter, the average temperature is 51.9 degrees F and the average daily minimum temperature is 40.1 degrees. The lowest temperature on record, which occurred on January 21, 1985, is 2 degrees. In summer, the average temperature is 81.0 degrees and the average daily maximum temperature is 92.4 degrees. The highest recorded temperature, which occurred on July 25, 1983, is 107 degrees.

Growing degree days are shown in Table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is about 52.53 inches. Of this, 29.30 inches, or about 56 percent, usually falls in April through October. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through October is less than 13.4 inches. The heaviest 1-day rainfall during the period of record was 6.20 inches at Camilla on July 25, 1983. Thunderstorms occur on about 83 days each year, and most occur in July.

The average seasonal snowfall is 0.1 inch. The greatest snow depth at any one time during the period of record was 3 inches recorded on February 10, 1973. Most years have no days with at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 3.0 inches recorded on February 10, 1973.

The average relative humidity in mid-afternoon is about 55 percent. Humidity is higher at night, and the average at dawn is about 91 percent. The sun shines 69 percent of the time possible in summer and 60

percent in winter. The prevailing wind is from the north. Average wind speed is highest, 7.6 miles per hour, in March.

Geology

Grady County is principally in the Tifton Upland District of the Coastal Plain Physiographic Province. The Tifton Upland is an area of high ground that descends in altitude southeastward from an escarpment. This area has the appearance of a broad, flat plain that has been dissected by many small streams into a series of gently rolling hills. Surface streams form a strongly dendritic drainage pattern. Sinkholes and solution features are absent. Thick sediments of Miocene to recent age have prevented the formation of these features. Elevations range from 300 feet above mean sea level along the escarpment to 120 feet above mean sea level in the southeastern part of the county along the Ochlockonee River.

The solution escarpment is a relatively steep slope that separates the flat, low-lying Dougherty Plain from the Tifton Upland. Many streams that form on the face of the escarpment flow northwest and terminate in caves and sinkholes along the edge of the Dougherty Plain. The Suwannee Limestone provides scattered outcrops along the base of the escarpment. The northwest corner of Grady County is an area typical of the Dougherty Plain. It has flat to gently rolling topography interrupted by numerous sinkholes. Karst topography prevails in this district. Many sinkholes are sites of ponds and marshy areas. The karst topography formed through the solution and collapse of the underlying Tampa, Suwannee, and Ocala Limestones, which are all significant members of the regional Floridan Aquifer. Typical elevations for this area range from 160 to 170 above mean sea level.

The residuum of the Dougherty Plain consists of unsorted, varicolored sand and clay with chert nodules and boulders and local inclusions of silicified limestone boulders. These materials served as parent material for nearly level soils, dominantly the Bonneau-Blanton and Tifton-Dothan-Nankin soil associations. The Rembert-Bonneau soil association is on level flats between stream divides. The Osier-Bibb soil association is along the existing stream systems. The numerous sinks and depressions in the Dougherty Plain typically contain Grady and Rembert soils.

The uplands and stream divides of the Tifton Upland consist of Faceville, Norfolk, Dothan, and Tifton soils. The Cowarts-Gritney-Tifton soil association consists of the soils along the lower slopes adjacent to the existing streams and water courses. The wet areas consist dominantly of Pelham and Osier soils.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; and the kinds of crops and native plants. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil

scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

1. Bonneau-Blanton

Nearly level to strongly sloping, well drained and somewhat excessively drained soils that have a thick sandy surface layer, have a fine-loamy subsoil, and are on upland ridges and side slopes

Setting

Location in the survey area: Northwest corner
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and side slopes
Slope: 0 to 12 percent

Composition

Percent of the survey area: 1.1
Bonneau soils: 39 percent
Blanton soils: 28 percent
Minor soils: 33 percent

Soil Characteristics

Bonneau
Surface layer: Dark grayish brown loamy sand
Subsurface layer: Yellowish brown loamy sand
Subsoil: Upper part—brownish yellow sandy loam that has reddish yellow mottles; next part—brownish yellow sandy clay loam that has reddish yellow mottles; next part—mottled red, brownish yellow, and very pale brown sandy clay loam; lower part—mottled light red, brownish yellow, and light gray sandy clay loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: 3 1/2 to 5 feet
Slope: 0 to 12 percent
Parent material: Coastal Plain sediments

Blanton
Surface layer: Dark brown loamy sand
Subsurface layer: Brownish yellow loamy sand
Subsoil: Upper part—brownish yellow sandy loam; lower part—brownish yellow sandy clay loam that has yellowish red and light gray mottles
Depth class: Very deep
Drainage class: Somewhat excessively drained
Depth to seasonal high water table: 4 to 6 feet
Slope: 0 to 12 percent
Parent material: Coastal Plain sediments

Minor soils
- Very poorly drained Grady soils in depressions and drainageways
- Well drained Wagram soils on summits and side slopes
- Somewhat poorly drained Ocilla soils in shallow depressions and on low flats

Use and Management

Major uses: Cropland and pasture
Other use: Woodland

Cropland
Management concerns: Low available water capacity and low nutrient holding capacity

Pasture and hayland
Management concerns: Low available water capacity and low nutrient holding capacity

Woodland
Management concerns: Equipment use and seedling mortality

Urban development
Management concerns: Seasonal wetness at a depth of 3 1/2 to 6 feet; cutbanks may cave

Recreational development
Management concerns: Droughtiness and trafficability

2. Rembert-Bonneau

Nearly level to strongly sloping, poorly drained to well drained soils in shallow depressions and on adjacent uplands

Setting

Location in the survey area: Northwestern part
Landscape: Coastal Plain
Landform: Uplands
Landform position: Drainageways and shallow depressions
Slope: 0 to 2 percent

Composition

Percent of the survey area: 0 .3
Rembert soils: 65 percent
Goldsboro soils: 25 percent
Minor soils: 10 percent

Soil Characteristics

Rembert
Surface layer: Dark grayish brown sandy loam
Subsurface layer: Grayish brown sandy loam
Subsoil: Upper part—gray clay that has red mottles; next part—dark gray clay that has brownish yellow mottles; lower part—light gray sandy clay loam that has yellowish red and gray mottles
Depth class: Very deep
Drainage class: Poorly drained
Seasonal high water table: 1 foot above the surface to 1 foot below
Slope: 0 to 2 percent
Parent material: Coastal Plain sediments

Bonneau
Surface layer: Dark grayish brown loamy sand
Subsurface layer: Yellowish brown loamy sand
Subsoil: Upper part—brownish yellow sandy loam that has reddish yellow mottles; next part—brownish yellow sandy clay loam that has reddish yellow mottles; next part—mottled red, brownish yellow, and very pale brown sandy clay loam; lower part—mottled light red, brownish yellow, and light gray sandy clay loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: 3 1/2 to 5 feet
Slope: 0 to 12 percent
Parent material: Coastal Plain sediments

Minor soils
- Well drained Norfolk soils in the higher landscape positions
- Poorly drained Grady soils in the deeper depressions
- Somewhat poorly drained Ocilla soils on rims of depressions

Use and Management

Major use: Woodland
Other uses: Cropland and pasture

Cropland
Management concerns: Flooding and wetness

Pasture and hayland
Management concerns: Flooding and wetness

Woodland
Management concerns: Equipment use and seedling mortality

Urban development
Management concerns: Flooding and wetness

Recreational development
Management concerns: Flooding and wetness

3. Tifton-Dothan-Nankin

Nearly level to strongly sloping, well drained soils that have a sandy surface layer, have a fine-loamy subsoil, and are on upland ridges and side slopes

Setting

Location in the survey area: Northern part
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and side slopes
Slope: 0 to 8 percent

Composition

Percent of the survey area: 56.4
Tifton soils: 31 percent
Dothan soils: 10 percent
Nankin soils: 8 percent
Minor soils: 51 percent

Soil Characteristics

Tifton
Surface layer: Dark grayish brown loamy sand
Subsurface layer: Yellowish brown loamy sand
Subsoil: Upper part—yellowish brown sandy clay

loam; next part—brownish yellow sandy clay loam; next part—brownish yellow sandy clay loam that has brownish yellow and yellow mottles; lower part—brownish yellow sandy clay loam that has yellow and light gray mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: 3 1/2 to 5 feet
Slope: 0 to 8 percent
Parent material: Coastal Plain sediments

Dothan
Surface layer: Grayish brown loamy sand
Subsoil: Upper part—yellowish brown sandy clay loam; next part—brownish yellow sandy clay loam that has light yellowish brown mottles; next part—brownish yellow sandy clay loam; lower part—yellow sandy clay loam that has reddish yellow mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: 3 to 5 feet
Slope: 0 to 5 percent
Parent material: Coastal Plain sediments

Nankin
Surface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish red sandy clay that has red mottles; next part—yellowish red sandy clay that has red and brownish yellow mottles; next part—yellowish red sandy clay that has brownish yellow mottles; lower part—yellowish red sandy clay loam that has red, brownish yellow, and pinkish gray mottles
Substratum: Mottled red, brownish yellow, and pinkish gray sandy loam with pockets of sandy clay loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 12 percent
Parent material: Stratified loamy and clayey Coastal Plain sediments

Minor soils
- Well drained Cowarts soils in positions similar to those of the Tifton, Dothan, and Nankin soils
- Well drained Norfolk soils on broad ridges
- Poorly drained Pelham soils in drainageways
- Poorly drained Grady soils in depressions

Use and Management

Major uses: Cropland and pasture

Cropland
Management concerns: No significant concerns

Pasture and hayland
Management concerns: No significant concerns

Woodland
Management concerns: No significant concerns

Urban development
Management concerns: Seasonal high water table

Recreational development
Management concerns: No significant concerns

4. Faceville-Tifton-Nankin

Nearly level to strongly sloping, well drained soils that have a sandy surface layer, have a fine-loamy subsoil, and are on upland ridges and side slopes

Setting

Location in the survey area: Central part; on the west side of the Ochlockonee River
Landscape: Coastal plain
Landform: Uplands
Landform position: Ridges and side slopes
Slope: 0 to 8 percent

Composition

Percent of the survey area: 20.4
Faceville soils: 20 percent
Tifton soils: 15 percent
Nankin soils: 10 percent
Minor soils: 55 percent

Soil Characteristics

Faceville
Surface layer: Brown sandy loam
Subsoil: Upper part—yellowish red sandy clay; lower part—red sandy clay
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 8 percent
Parent material: Coastal Plain sediments

Tifton
Surface layer: Dark grayish brown loamy sand
Subsurface layer: Yellowish brown loamy sand
Subsoil: Upper part—yellowish brown sandy clay loam; next part—brownish yellow sandy clay loam; next part—brownish yellow sandy clay loam that has brownish yellow and yellow mottles; lower part—brownish yellow sandy clay loam that has yellow and light gray mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: 3 1/2 to 5 feet
Slope: 0 to 8 percent
Parent material: Coastal Plain sediments

Nankin
Surface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish red sandy clay that has red mottles; next part—yellowish red sandy clay that has red and brownish yellow mottles; next part—yellowish red sandy clay that has brownish yellow mottles; lower part—yellowish red sandy clay loam that has red, brownish yellow, and pinkish gray mottles
Substratum: Mottled red, brownish yellow, and pinkish gray sandy loam with pockets of sandy clay loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 12 percent
Parent material: Stratified loamy and clayey coastal plain sediments

Minor soils
- Well drained Carnegie soils in the higher landscape positions
- Well drained Dothan soils on broad ridges
- Poorly drained Pelham soils along drainageways

Use and Management

Major uses: Cropland and pasture

Cropland
Management concerns: Erosion

Pasture and hayland
Management concerns: No significant concerns

Woodland
Management concerns: No significant concerns

Urban development
Management concerns: No significant concerns

Recreational development
Management concerns: No significant concerns

5. Osier-Bibb

Nearly level, poorly drained soils on flood plains and in drainageways

Setting

Location in the survey area: Narrow bands throughout
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Drainageways
Slope: 0 to 2 percent

Composition

Percent of the survey area: 4.5
Bibb soils: 39 percent
Osier soils: 26 percent
Minor soils: 35 percent

Soil Characteristics

Osier
Surface layer: Dark gray loamy fine sand
Substratum: Gray to light gray fine sand
Depth class: Very deep
Drainage class: Poorly drained
Seasonal high water table: At the surface to a depth of 1 foot
Slope: 0 to 2 percent
Parent material: Sandy alluvium

Bibb
Surface layer: Very dark gray loamy fine sand
Substratum: Upper part—dark gray fine sandy loam that has brownish yellow and yellowish red mottles; lower part—light gray sand that has yellow mottles
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: 1/2 to 1 foot
Slope: 0 to 2 percent
Parent material: Stratified loamy and sandy alluvium

Minor soils
- Somewhat poorly drained Ocilla soils in the slightly higher positions
- Grady soils in the lower, ponded areas
- Moderately well drained Goldsboro soils on interstream divides

Use and Management

Major uses: Woodland

Cropland
Management concerns: Flooding makes this map unit unsuitable as cropland.

Pasture and hayland
Management concerns: Flooding makes this map unit unsuitable as pasture and hayland.

Woodland
Management concerns: Seedling mortality and equipment use

Urban development
Management concerns: Flooding makes this map unit unsuitable as a site for urban development.

Recreational development
Management concerns: Flooding makes this map unit unsuitable for recreation development.

6. Orangeburg-Nankin-Faceville

Nearly level to strongly sloping, well drained soils that have a sandy surface layer, have a fine-loamy subsoil, and are on upland ridges and side slopes

Setting

Location in the survey area: Southeastern part
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and side slopes
Slope: 0 to 12 percent

Composition

Percent of the survey area: 15.3
Orangeburg soils: 14 percent
Nankin soils: 14 percent
Faceville soils: 9 percent
Minor soils: 63 percent

Soil Characteristics

Orangeburg
Surface layer: Dark yellowish brown loamy sand
Subsurface layer: Brown sandy loam
Subsoil: Red sandy clay loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 12 percent
Parent material: Loamy and clayey Coastal Plain sediments

Nankin
Surface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish red sandy clay that has red mottles; next part—yellowish red sandy clay that has red and brownish yellow mottles; next part—yellowish red sandy clay that has brownish yellow mottles; lower part—yellowish red sandy clay loam that has red, brownish yellow, and pinkish gray mottles
Substratum: Mottled red, brownish yellow, and pinkish gray sandy loam with pockets of sandy clay loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 12 percent
Parent material: Stratified loamy and clayey Coastal Plain sediments

Faceville
Surface layer: Brown sandy loam
Subsoil: Upper part—yellowish red sandy clay; lower part—red sandy clay
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 8 percent
Parent material: Coastal Plain sediments

Minor soils
- Well drained Carnegie soils in the higher landscape positions
- Well drained Dothan soils on broad ridges
- Poorly drained Pelham soils along drainageways

Use and Management

Major uses: Cropland, pasture, and hayland

Cropland
Management concerns: Erosion

Pasture and hayland
Management concerns: No significant concerns

Woodland
Management concerns: No significant concerns

Urban development
Management concerns: Slope

Recreational development
Management concerns: Slope

7. Cowarts-Gritney-Tifton

Nearly level to strongly sloping, moderately will drained and well drained soils that have a sandy surface layer, have a fine-loamy or clayey subsoil, and are on shoulders and side slopes

Setting

Location in the survey area: Northwestern part
Landscape: Coastal Plain
Landform: Uplands
Landform position: Shoulders and side slopes
Slope: 0 to 12 percent

Composition

Percent of the survey area: 2
Cowarts soils: 20 percent
Gritney soils: 20 percent
Tifton soils: 18 percent
Minor soils: 42 percent

Soil Characteristics

Cowarts
Surface layer: Brown loamy sand
Subsurface layer: Yellowish brown sandy loam
Subsoil: Upper part—strong brown sandy clay loam; next part—yellowish red sandy clay loam; lower

part—yellowish red sandy clay loam that has yellowish brown mottles
Substratum: Mottled brownish yellow, yellowish brown, and white sandy loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 5 feet
Slope: 5 to 12 percent
Parent material: Loamy Coastal Plain sediments

Gritney
Surface layer: Yellowish brown loamy sand
Subsoil: Upper part—yellowish brown sandy clay that has red mottles; lower part—mottled, reddish brown, yellowish brown, and light gray sandy clay
Substratum: Light gray sandy clay that has reddish brown and yellowish brown mottles
Depth class: Very deep
Drainage class: Moderately well drained
Depth to seasonal high water table: 1 1/2 to 3 feet
Slope: 0 to 12 percent
Parent material: Stratified loamy and clayey Coastal Plain sediments

Tifton
Surface layer: Dark grayish brown loamy sand
Subsurface layer: Yellowish brown loamy sand
Subsoil: Upper part—yellowish brown sandy clay loam; next part—brownish yellow sandy clay loam; next part—brownish yellow sandy clay loam that has brownish yellow and yellow mottles; lower part—brownish yellow sandy clay loam that has yellow and light gray mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: 3 1/2 to 5 feet
Slope: 0 to 8 percent
Parent material: Coastal Plain sediments

Minor soils
- Well drained Dothan soils on ridgetops and side slopes
- Well drained Bonneau soils on broad ridges
- Poorly drained Pelham soils along drainageways

Use and Management

Major use: Woodland
Other use: Cropland

Cropland
Management concerns: Erosion and slope

Pasture and hayland
Management concerns: Erosion and slope

Woodland
Management concerns: No significant concerns

Urban development
Management concerns: Slope and moderately slow permeability

Recreational development
Management concerns: Slope

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Grady sandy loam, ponded, is a phase of the Grady series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Cowarts-Gritney complex, 5 to 8 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use

and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Osier and Bibb soils, frequently flooded, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Udorthents, loamy, is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

BgB—Bigbee loamy fine sand, 0 to 5 percent slopes, rarely flooded

Setting

Landscape: Coastal Plain
Landform: Low stream terraces
Landform position: Knolls and natural levees
Size of areas: 5 to 50 acres

Composition

Bigbee and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown loamy fine sand

Substratum:
5 to 28 inches—yellowish brown fine sand
28 to 48 inches—very pale brown fine sand
48 to 62 inches—brownish yellow fine sand that has very pale brown and strong brown mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Excessively drained
Depth to seasonal high water table: 3 1/2 to 6 feet, January through March
Permeability: Rapid
Available water capacity: Low
Flooding: Rare
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid to moderately acid
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Poorly drained Bibb and Osier soils in the slightly lower, concave positions on flood plains
- Moderately well drained Hornsville soils on the higher, broad stream terraces
- Lakeland soils on the higher natural levees, which are not subject to flooding

Similar soils:
- Scattered areas of soils that are similar to the Bigbee soil but have a surface layer of sandy loam
- Areas of a soil that is similar to the Bigbee soil but has a subsurface horizon of sandy loam

Land Use

Dominant uses: Woodland
Other uses: Pasture

Cropland
Suitability: Poorly suited
Commonly grown crops: None
Management concerns: Low available water capacity and flooding
Management measures and considerations:
- Harvesting row crops as soon as possible reduces the risk of damage from the flooding.
- A conservation tillage system increases the content of organic matter and helps to conserve soil moisture.
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Pasture and hayland
Suitability: Poorly suited
Commonly grown crops: Bahiagrass, improved bermudagrass, and common bermudagrass
Management concerns: Low available water capacity
Management measures and considerations:
- Using split applications of fertilizer minimizes leaching and increases yields.

Woodland
Suitability: Moderately well suited
Productivity class: High for loblolly pine
Management concerns: Low available water capacity
Management measures and considerations:
- Proper site preparation, herbicides, and prescribed burning help to control competition from undesirable plant species.

- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Poorly suited to dwellings with or without basements
Management concerns: Flooding, wetness, and sandy textures
Management measures and considerations:
- This map unit is severely limited as a site for dwellings because of the flooding.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Flooding and sandy textures
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited
Management concerns: Flooding, wetness, and sandy textures
Management measures and considerations:
- Well-compacted fill material can be used as a road base to elevate roads above the flooding.

Interpretive Groups

Land capability classification: 3s

BIB—Blanton loamy sand, 0 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands and high stream terraces
Landform position: Ridgetops and side slopes
Size of areas: 5 to 300 acres

Composition

Blanton and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 10 inches—dark brown loamy sand

Subsurface layer:
10 to 16 inches—yellowish brown loamy sand
16 to 42 inches—brownish yellow loamy sand
42 to 61 inches—very pale brown loamy sand
61 to 68 inches—light yellowish brown loamy sand

Subsoil:
68 to 72 inches—brownish yellow sandy loam
72 to 80 inches—brownish yellow sandy clay loam that has yellowish red and light gray mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 4 to 6 feet, December through March
Permeability: Rapid in the surface and subsurface layers, moderate in the subsoil
Available water capacity: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied
Other distinctive properties: Thick, sandy surface layer

Minor Components

Dissimilar soils:
- Bonneau, Fuquay, and Lucy soils, which are in the lower positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Lakeland soils, which are in the higher positions and are sandy to a depth of more than 80 inches

Similar soils:
- Troup soils in the higher positions
- Soils that are similar to the Blanton soil but have layers of sandy loam within a depth of 60 inches

Land Use

Dominant uses: Pasture and woodland
Other uses: Cropland

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, soybeans, and truck crops
Management concerns: Low available water capacity; low nutrient holding capacity in the surface layer
Management measures and considerations:
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Pasture and hayland
Suitability: Moderately well suited

Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Moderate—equipment use, droughtiness, nutrient leaching, and low soil fertility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Using equipment that has low-pressure tires reduces the slippage and rutting caused by the high content of sand in the soil.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Using split applications of fertilizer minimizes leaching and increases yields.

Woodland
Suitability: Suited
Productivity class: High for loblolly pine, longleaf pine, and slash pine
Management concerns: None
Management measures and considerations:
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Establishing a permanent plant cover on roads and landings after the completion of logging reduces the hazard of erosion and helps to control the siltation of streams.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Suited to dwellings without basements and moderately suited to dwellings with basements
Management concerns: Instability of cutbanks; seasonal high water table
Management measures and considerations:
- Cutbanks are unstable and are subject to slumping. Bracing should be used to reduce the severe risk of caving.
- Building on the highest part of the landscape and installing a subsurface drainage system help to overcome the seasonal high water table.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Seasonal high water table and seepage
Management measures and considerations:
- Installing the absorption fields on the highest part of landscape helps to overcome the wetness.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: None

Interpretive Groups

Land capability classification: 3s

BID—Blanton loamy sand, 5 to 12 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands and stream terraces
Landform position: Ridges and side slopes
Size of areas: 5 to 200 acres

Composition

Blanton and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 10 inches—dark brown loamy sand

Subsurface layer:
10 to 16 inches—yellowish brown loamy sand
16 to 42 inches—brownish yellow loamy sand
42 to 61 inches—very pale brown loamy sand
61 to 68 inches—light yellowish brown loamy sand

Subsoil:
68 to 72 inches—brownish yellow sandy loam
72 to 80 inches—brownish yellow sandy clay loam that has yellowish red and light gray mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 4 to 6 feet, December through March
Permeability: Rapid in the surface and subsurface layers, moderate in the subsoil
Available water capacity: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good

Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied
Other distinctive properties: Thick, sandy surface layer

Minor Components

Dissimilar soils:
- Bonneau, Fuquay, and Lucy soils, which are in the lower positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Lakeland soils, which are in the higher positions and are sandy to a depth of more than 80 inches

Similar soils:
- Troup soils in the higher positions
- Soils that are similar to the Blanton soil but have layers of sandy loam within a depth of 60 inches

Land Use

Dominant uses: Woodland
Other uses: Cropland and pasture

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Slope, erosion, and low available water capacity; low nutrient holding capacity in the surface layer
Management measures and considerations:
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.
- Planting on the contour helps to overcome the slope and reduces the hazard of erosion.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Equipment use, droughtiness, nutrient leaching, and low soil fertility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Using equipment that has low-pressure tires reduces the slippage and rutting caused by the high content of sand in the soil.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Using split applications of fertilizer minimizes leaching and increases yields.

Woodland
Suitability: Suited
Productivity class: High for loblolly pine, longleaf pine, and slash pine
Management concerns: Equipment use
Management measures and considerations:
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Moderately well suited to dwellings with or without basements
Management concerns: Instability of cutbanks; seasonal high water table. Also, slope is a moderate concern.
Management measures and considerations:
- Cutbanks are unstable and are subject to slumping. Bracing should be used to reduce the severe risk of caving.
- Building on the highest part of the landscape and installing a subsurface drainage system help to overcome the seasonal high water table.
- Cutting and filling help to overcome the slope limitation.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Seasonal high water table. Also, slope is a moderate concern.
Management measures and considerations:
- Installing the absorption fields on the highest part of landscape helps to overcome the wetness.
- Installing the distribution lines on the contour helps to overcome the steepness.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited
Management concerns: Seasonal high water table. Also, slope is a moderate concern.

Management measures and considerations:
- Cutting and filling help to overcome the slope limitation.
- Using off-site material for the subgrade and placing roads on the highest part of the landscape help to overcome the wetness.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.
- Designing roads to conform to the contour and providing water-control structures, such as culverts, help to maintain road stability.

Interpretive Groups

Land capability classification: 4s

BoB—Bonneau loamy sand, 0 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Low-lying ridges; side slopes
Size of areas: 5 to 300 acres

Composition

Bonneau and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 10 inches—dark grayish brown loamy sand

Subsurface layer:
10 to 21 inches—yellowish brown loamy sand
21 to 31 inches—brownish yellow loamy sand

Subsoil:
31 to 39 inches—brownish yellow sandy loam that has reddish yellow mottles
39 to 49 inches—brownish yellow sandy clay loam that has reddish yellow mottles
49 to 55 inches—mottled brownish yellow, very pale brown, and red sandy clay loam
55 to 72 inches—mottled light red, brownish yellow, and light gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 3½ to 5 feet, December through March
Permeability: Rapid in the surface and subsurface layers, moderate in the subsoil
Available water capacity: Low
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Blanton soils, which are in the slightly higher positions and have a sandy surface layer that is 40 to 60 inches thick
- Fuquay soils, which are in the lower positions and have 5 percent plinthite within a depth of 60 inches
- Dothan soils, which are in the lower positions, have a surface layer that is less than 20 inches thick, and contain more than 5 percent plinthite

Similar soils:
- Soils that are similar to the Bonneau soil but have subsurface layers of sandy loam within a depth of 30 inches

Land Use

Dominant uses: Cropland, pasture, and woodland (fig. 2)
Other uses: Vegetable crops

Cropland
Suitability: Moderately well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: Low available water capacity; low nutrient holding capacity in the surface layer
Management measures and considerations:
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Including grasses and legumes in the cropping system helps to control further erosion and reduces runoff.
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Figure 2.—Irrigated peanuts growing in an area of Bonneau loamy sand, 0 to 5 percent slopes.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Improved bermudagrass, common bermudagrass, bahiagrass, and ryegrass
Management concerns: Low available water capacity; low nutrient holding capacity in the surface layer
Management measures and considerations:
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine, longleaf pine, and slash pine
Management concerns: None
Management measures and considerations:
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited to dwellings without basements and moderately well suited to dwellings with basements
Management concerns: Seasonal wetness
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.

Septic tank absorption fields
Suitability: Moderately well suited

Management concerns: Seasonal wetness; poor filter
Management measures and considerations:
- Installing the absorption fields on the highest part of the landscape and installing a subsurface drainage system help to overcome the wetness.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: 2s

BoD—Bonneau loamy sand, 5 to 12 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Low-lying ridges; side slopes
Size of areas: 5 to 150 acres

Composition

Bonneau and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 10 inches—dark grayish brown loamy sand

Subsurface layer:
10 to 21 inches—yellowish brown loamy sand
21 to 31 inches—brownish yellow loamy sand

Subsoil:
31 to 39 inches—brownish yellow sandy loam that has reddish yellow mottles
39 to 49 inches—brownish yellow sandy clay loam that has reddish yellow mottles
49 to 55 inches—mottled brownish yellow, very pale brown, and red sandy clay loam
55 to 72 inches—mottled light red, brownish yellow, and light gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 80 inches
Drainage class: Well drained
Depth to seasonal high water table: 3 1/2 to 5 feet, December through March
Permeability: Rapid in the surface and subsurface layers, moderate in the subsoil
Available water capacity: Low
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid to moderately acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Blanton soils, which are in the slightly higher positions and have a sandy surface layer that is 40 to 60 inches thick
- Fuquay soils, which are in the lower positions and have 5 percent plinthite within a depth of 60 inches
- Dothan and Cowarts soils, which are in the lower positions and have a surface layer that is less than 20 inches thick

Similar soils:
- Soils that are similar to the Bonneau soil but have a subsurface layer of sandy loam within a depth of 30 inches

Land Use

Dominant uses: Cropland and pasture
Other uses: Woodland

Cropland
Suitability: Poorly suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: Low available water capacity, low nutrient holding capacity in the surface layer, slope, and erosion
Management measures and considerations:
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Including grasses and legumes in the cropping system helps to control further erosion and reduces runoff.
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Improved bermudagrass, common bermudagrass, bahiagrass, and ryegrass
Management concerns: Low available water capacity; low nutrient holding capacity in the surface layer
Management measures and considerations:
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Using split applications of fertilizer minimizes leaching and increases yields.

Woodland
Suitability: Moderately well suited
Productivity class: High for loblolly pine, longleaf pine, and slash pine
Management concerns: Equipment use
Management measures and considerations:
- Planting and harvesting should be scheduled for periods when the soil has the proper moisture content.
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Moderately well suited
Management concerns: Seasonal wetness. Also, slope is a moderate concern.
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system help to overcome the wetness.
- Cutting and filling help to overcome the slope limitation.

Septic tank absorption fields
Suitability: Suited
Management concerns: Seasonal wetness and slope
Management measures and considerations:
- Installing the absorption fields on the highest part of the landscape and installing a subsurface drainage system help to overcome the wetness.
- Designing septic systems to conform to the contour helps to overcome the slope limitation.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited
Management concerns: Seasonal wetness and slope
Management measures and considerations:
- Cutting and filling and building roads to conform to the contour help to overcome the slope limitation.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: 3s

CaB—Carnegie gravelly sandy loam, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridgetops, side slopes, and knolls
Size of areas: 5 to 75 acres

Composition

Carnegie and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—brown gravelly sandy loam

Subsoil:
6 to 20 inches—strong brown sandy clay loam
20 to 32 inches—strong brown clay that has red and yellowish brown mottles
32 to 45 inches—mottled red, strong brown, and very pale brown clay
45 to 62 inches—mottled red, strong brown, and very pale brown sandy clay
62 to 76 inches—mottled yellowish red, reddish brown, and strong brown sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Moderately slow
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Moderately low

Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: 5 to 15 percent plinthite below a depth of 18 inches; 5 to 20 percent ironstone nodules in the surface layer

Minor Components

Dissimilar soils:
- Dothan and Tifton soils, which are fine-loamy, are in the lower positions, and are less red than the Carnegie soil
- Cowarts soils, which are fine-loamy and are on slope breaks
- Orangeburg soils, which are fine-loamy and are in the lower positions

Similar soils:
- Soils that are similar to the Carnegie soil but have a surface layer of sandy clay loam

Land Use

Dominant uses: Cropland and pasture
Other uses: Woodland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, and small grains
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Erosion
Management measures and considerations:
- During pasture establishment or renovation, preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Using equipment that has low-pressure tires reduces the slippage and rutting caused by the high content of sand in the soil.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine and slash pine
Management concerns: Erosion
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Establishing a permanent plant cover on roads and log landings, reforesting immediately after harvesting, and preparing sites with recommended species reduce the hazard of erosion and help to control siltation of streams.

Dwellings
Suitability: Suited
Management concerns: None
Management measures and considerations:
- Structures can be designed to conform to the natural slope or can be built in the less sloping areas.
- Vegetating cleared-and-graded areas as soon as possible or constructing silt fences helps to maintain soil stability and prevents sediment from leaving the site.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Slow permeability in the subsoil
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields because of the slow permeability in the subsoil. The local Health Department can be contaced for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited
Management concerns: Low strength in the subsoil
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Designing roads to safely remove surface water improves soil performance.

- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: 2e

CaC—Carnegie gravelly sandy loam, 5 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridgetops, short side slopes, and knolls
Size of areas: 5 to 75 acres

Composition

Carnegie and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—brown gravelly sandy loam

Subsoil:
6 to 20 inches—strong brown sandy clay loam
20 to 32 inches—strong brown clay that has red and yellowish brown mottles
32 to 45 inches—mottled red, strong brown, and very pale brown clay
45 to 62 inches—mottled red, strong brown, and very pale brown sandy clay
62 to 76 inches—mottled yellowish red, reddish brown, and strong brown sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Moderately slow
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid to moderately acid throughout, except where lime has been applied
Other distinctive properties: 5 to 15 percent plinthite below a depth of 18 inches; 5 to 20 percent ironstone nodules in the surface layer

Minor Components

Dissimilar soils:
- Dothan and Tifton soils, which are fine-loamy, are in the lower positions, and are less red than the Carnegie soil
- Cowarts soils, which are fine-loamy and are on slope breaks
- Orangeburg soils, which are fine-loamy and are in the lower positions

Similar soils:
- Soils that are similar to the Carnegie soil but have a surface layer of sandy clay loam

Land Use

Dominant uses: Cropland and pasture
Other uses: Woodland

Cropland
Suitability: Suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, and small grains
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, conservation tillage, winter cover crops, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Restricting tillage during wet periods helps to prevent clodding and crusting and increases infiltration of water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-

planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine and slash pine
Management concerns: Erosion
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Establishing a permanent plant cover on roads and landings after the completion of logging reduces the hazard of erosion and helps to control the siltation of streams.
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.

Dwellings
Suitability: Suited
Management concerns: None
Management measures and considerations:
- Structures can be designed to conform to the natural slope or can be built in the less sloping areas.
- Vegetating cleared-and-graded areas as soon as possible or constructing silt fences helps to maintain soil stability and prevents sediment from leaving the site.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Slow permeability in the subsoil
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields because of the slow permeability in the subsoil. The local Health Department can be contaced for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and prevents excessive erosion.

Interpretive Groups

Land capability classification: 3e

CgC—Cowarts-Gritney complex, 5 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Cowarts—narrow ridges and side slopes; Gritney—short side slopes
Size of areas: 10 to 100 acres

Composition

Cowarts and similar soils: 40 percent
Gritney and similar soils: 40 percent
Dissimilar soils: 20 percent

Typical Profile

Cowarts
Surface layer:
0 to 4 inches—brown loamy sand

Subsurface layer:
4 to 9 inches—yellowish brown sandy loam

Subsoil:
9 to 18 inches—strong brown sandy clay loam
18 to 25 inches—yellowish red sandy clay loam
25 to 31 inches—yellowish red sandy clay loam that has yellowish brown mottles

Substratum:
31 to 65 inches—mottled brownish yellow, yellowish brown, and white sandy loam

Gritney
Surface layer:
0 to 8 inches—yellowish brown loamy sand

Subsoil:
8 to 18 inches—yellowish brown sandy clay that has red mottles
18 to 50 inches—mottled reddish brown, yellowish brown, and light gray sandy clay

Substratum:
50 to 65 inches—light gray clay loam that has reddish brown and yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: Cowarts—more than 60 inches, but root growth may be limited by dense lower layers; Gritney—more than 60 inches
Drainage class: Cowarts—well drained; Gritney—moderately well drained
Depth to seasonal high water table: Cowarts—more

than 6 feet; Gritney—1 1/2 to 3 feet, December through April
Permeability: Cowarts—moderate in the subsoil and moderately slow in the substratum; Gritney—slow
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Cowarts—moderately low or moderate; Gritney—low or moderately low
Natural fertility: Low
Tilth: Cowarts—good; Gritney—fair
Reaction: Cowarts—very strongly acid or strongly acid, except where lime has been applied; Gritney—extremely acid to strongly acid, except where lime has been applied
Other distinctive properties: Cowarts—few quartz pebbles on the surface in some areas; Gritney—none

Minor Components

Dissimilar soils:
- Bonneau and Fuquay soils, which are in the higher positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Carnegie soils, which are on ridgetops and have 5 percent or more plinthite within a depth of 20 to 50 inches
- Tifton and Dothan soils, which are on the broader ridgetops and have more than 5 percent plinthite in the subsoil

Similar soils:
- Areas of eroded soils that have a surface texture of sandy loam or sandy clay loam

Land Use

Dominant uses: Woodland
Other uses: Pasture

Cropland
Suitability: Moderately well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, and small grains
Management concerns: Erosion and slope
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, conservation tillage, winter cover crops, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soils.
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Restricting tillage during wet periods helps to prevent clodding and crusting and increases infiltration of water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: Erosion and slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Moderately suited
Productivity class: Cowarts—high for loblolly pine, longleaf pine, and slash pine; Gritney—moderately high for loblolly pine, longleaf pine, and slash pine
Management concerns: Erosion
Management measures and considerations:
- Proper site preparation, herbicides, and prescribed burning help to control competition from undesirable plant species.
- Establishing a permanent plant cover on roads and landings after the completion of logging reduces the hazard of erosion and helps to control the siltation of streams.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.

Dwellings
Suitability: Cowarts—well suited to dwellings with or without basements; Gritney—moderately suited to dwellings without basements and poorly suited to dwellings with basements
Management concerns: Cowarts—none; Gritney—shrink-swell potential and slope
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.

- Structures can be designed to conform to the natural slope or can be built in the less sloping areas.
- Vegetating cleared-and-graded areas as soon as possible or constructing silt fences helps to maintain soil stability and prevents sediment from leaving the site.

Septic tank absorption fields
Suitability: Cowarts—moderately well suited; Gritney—unsuited
Management concerns: Cowarts—slow permeability; Gritney—wetness and slow permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Cowarts—suited; Gritney—poorly suited
Management concerns: Cowarts—none; Gritney—shrink-swell potential and low strength
Management measures and considerations:
- Designing roads to safely remove surface water improves soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material and minimize the shrinking and swelling of the Gritney soil.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and prevents excessive erosion.

Interpretive Groups

Land capability classification: Cowarts—3e; Gritney—4e

CgD—Cowarts-Gritney complex, 8 to 12 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Cowarts—narrow ridges; Gritney—short side slopes
Size of areas: 10 to 100 acres

Composition

Cowarts and similar soils: 40 percent
Gritney and similar soils: 40 percent
Dissimilar soils: 20 percent

Typical Profile

Cowarts
Surface layer:
0 to 4 inches—brown loamy sand

Subsurface layer:
4 to 9 inches—yellowish brown sandy loam

Subsoil:
9 to 18 inches—strong brown sandy clay loam
18 to 25 inches—yellowish red sandy clay loam
25 to 31 inches—yellowish red sandy clay loam that has yellowish brown mottles

Substratum:
31 to 65 inches—mottled brownish yellow, yellowish brown, and white sandy loam

Gritney
Surface layer:
0 to 8 inches—yellowish brown loamy sand

Subsoil:
8 to 18 inches—yellowish brown sandy clay that has red mottles
18 to 50 inches—mottled reddish brown, yellowish brown, and light gray sandy clay

Substratum:
50 to 65 inches—light gray clay loam that has reddish brown and yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: Cowarts—more than 60 inches, but root growth may be limited by dense lower layers; Gritney—more than 60 inches
Drainage class: Cowarts—well drained; Gritney—moderately well drained
Depth to seasonal high water table: Cowarts—more than 6 feet; Gritney—1½ to 3 feet, December through April
Permeability: Cowarts—moderate in the subsoil and moderately slow in the substratum; Gritney—slow
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Cowarts—moderately low or moderate; Gritney—low or moderately low
Natural fertility: Low
Tilth: Cowarts—good; Gritney—fair
Reaction: Cowarts—very strongly acid to acid, except where lime has been applied; Gritney—extremely acid to strongly acid, except where lime has been applied
Other distinctive properties: Cowarts—few quartz

pebbles on the surface in some areas; Gritney—none

Minor Components

Dissimilar soils:
- Bonneau and Fuquay soils, which are on the broader, flatter ridgetops and have a thick, sandy surface layer that ranges from 20 to 40 inches in thickness
- Carnegie soils, which are on ridgetops and have 5 percent or more plinthite within a depth of 20 to 50 inches
- Tifton and Dothan soils, which are on the broader ridgetops and contain more than 5 percent plinthite in the subsoil
- Orangeburg soils, which are in the higher positions, are fine-loamy, and have no significant decrease in clay content within a depth of 60 inches

Similar soils:
- Areas of eroded soils that have a surface layer of sandy loam or sandy clay loam

Land Use

Dominant uses: Woodland
Other uses: Pasture

Cropland
Suitability: Poorly suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, and small grains
Management concerns: Erosion and slope
Management measures and considerations:
- This map unit is severely limited for use as cropland.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: Erosion and slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Installing cross fencing to enable rotational grazing helps to keep the soils in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Using split applications of fertilizer minimizes leaching and increases yields.

Woodland
Suitability: Suited
Productivity class: Cowarts—high for loblolly pine, longleaf pine, and slash pine; Gritney—moderately high for loblolly pine, longleaf pine, and slash pine
Management concerns: Erosion and slope
Management measures and considerations:
- Establishing a permanent plant cover on roads and landings after the completion of logging reduces the hazard of erosion and helps to control the siltation of streams.
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Cowarts—moderately well suited; Gritney—poorly suited
Management concerns: Cowarts—slope; Gritney—wetness, slope, and shrink-swell potential
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.
- Building on loamy material brought in from offsite or using special foundation designs minimizes the damage caused by the shrinking and swelling of the Gritney soil.
- Designing structures to conform to the natural slope, cutting and filling, or building in the less sloping areas helps to overcome the slope.
- Vegetating cleared-and-graded areas as soon as possible or constructing silt fences helps to maintain soil stability and prevents sediment from leaving the site.

Septic tank absorption fields
Suitability: Cowarts—moderately well suited; Gritney—unsuited
Management concerns: Cowarts—slow permeability and slope; Gritney—wetness, slow permeability, and slope
Management measures and considerations:
- Installing a subsurface drainage system lowers the seasonal high water table.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited

Management concerns: Cowarts—slope; Gritney—wetness, low strength, and slope
Management measures and considerations:
- Designing roads to safely remove surface water improves soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soils and prevents excessive erosion.

Interpretive Groups

Land capability classification: Cowarts—6e; Gritney—6e

DoA—Dothan loamy sand, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges
Size of areas: 10 to 300 acres

Composition

Dothan and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 12 inches—grayish brown loamy sand

Subsoil:
12 to 24 inches—yellowish brown sandy clay loam
24 to 34 inches—brownish yellow sandy clay loam that has light yellowish brown mottles
34 to 48 inches—brownish yellow sandy clay loam
48 to 65 inches—yellow sandy clay loam that has reddish yellow mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 3 to 5 feet, January through March
Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: 5 to 15 percent plinthite within a depth of 30 to 60 inches

Minor Components

Dissimilar soils:
- Fuquay soils, which are in the higher positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Norfolk soils, which are in positions similar to those of the Dothan soil and contain less than 5 percent plinthite
- Orangeburg soils, which are in the slightly higher positions and have a subsoil that is redder in hue than the subsoil of the Dothan soil

Similar soils:
- Soils that are similar to the Dothan soil but have a surface layer of loamy fine sand or sandy loam
- Tifton soils, which have 5 percent or more ironstone nodules on the surface

Land Use

Dominant uses: Cropland and pasture
Other uses: Woodland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: None
Management measures and considerations:
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: None
Management measures and considerations:
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine, longleaf pine, and slash pine
Management concerns: No significant limitations affect woodland management.

Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited to dwellings without basements and moderately well suited to dwellings with basements
Management concerns: The seasonal high water table is a moderate concern affecting buildings with basements.
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Seasonal high water table and restricted permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Designing roads to safely remove surface water improves soil performance.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and prevents excessive erosion.

Interpretive Groups

Land capability classification: 1

DoB—Dothan loamy sand, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges
Size of areas: 10 to 300 acres

Composition

Dothan and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 12 inches—grayish brown loamy sand

Subsoil:
12 to 24 inches—yellowish brown sandy clay loam
24 to 34 inches—brownish yellow sandy clay loam that has light yellowish brown mottles
34 to 48 inches—brownish yellow sandy clay loam
48 to 65 inches—yellow sandy clay loam that has reddish yellow mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 3 to 5 feet, January through March
Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: 5 to 15 percent plinthite below a depth of 30 to 60 inches

Minor Components

Dissimilar soils:
- Fuquay soils, which are in the higher positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Norfolk soils, which are in positions similar to those of the Dothan soil and contain less than 5 percent plinthite
- Orangeburg soils, which are in the slightly higher positions and have a subsoil that is redder in hue than the subsoil of the Dothan soil
- Tifton soils, which are in positions similar to those of the Dothan soil and have 5 percent or more ironstone nodules on the surface
- Cowarts soils, which are on slope breaks and have a thinner solum than that of the Dothan soil

Similar soils:
- Soils that are similar to the Dothan soil but have a surface layer of loamy fine sand or sandy loam

Land Use

Dominant uses: Cropland and pasture
Other uses: Woodland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: Erosion
Management measures and considerations:
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: None
Management measures and considerations:
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine, longleaf pine, and slash pine
Management concerns: None
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited to dwellings without basements and suited to dwellings with basements
Management concerns: The seasonal high water table is a moderate concern affecting buildings with basements.
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Seasonal high water table and restricted permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: None
Management measures and considerations:
- Designing roads to safely remove surface water improves soil performance.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and prevents excessive erosion.

Interpretive Groups

Land capability classification: 2e

FeA—Faceville sandy loam, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Convex interfluves
Size of areas: 5 to 50 acres

Composition

Faceville and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 4 inches—brown sandy loam

Subsurface layer:
4 to 7 inches—yellowish red sandy clay loam

Subsoil:
7 to 65 inches—red sandy clay

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Moderate
Available water capacity: Moderate to high
Flooding: None

Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid to moderately acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Nankin soils, which are on adjacent side slopes and have a subsoil that is shallower than the subsoil of the Faceville soil
- Orangeburg soils, which are in the slightly lower positions and are fine-loamy

Similar soils:
- Soils that are similar to the Faceville soil but have a surface layer of loamy sand or sandy clay loam

Land Use

Dominant uses: Cropland
Other uses: Pasture, hayland, and woodland (fig. 3)

Cropland
Suitability: Well suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: None

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: None
Management measures and considerations:
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine and slash pine
Management concerns: None

Figure 3.—A recently thinned stand of pines in an area of Faceville sandy loam, 0 to 2 percent slopes.

Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Establishing a permanent plant cover on roads and landings after the completion of logging reduces the hazard of erosion and helps to control the siltation of streams.
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.

Dwellings
Suitability: Well suited to dwellings without basements and suited to dwellings with basements
Management concerns: None
Management measures and considerations:
- Vegetating cleared-and-graded areas as soon as possible or constructing silt fences helps to maintain soil stability and prevents sediment from leaving the site.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Moderate permeability
Management measures and considerations:
- Increasing the size of the absorption field improves the performance of the system.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None

Interpretive Groups

Land capability classification: 1

FeB—Faceville sandy loam, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Convex interfluves and shoulder slopes
Size of areas: 5 to 175 acres

Composition

Faceville and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 4 inches—brown sandy loam

Subsurface layer:
4 to 7 inches—yellowish red sandy clay loam

Subsoil:
7 to 65 inches—red sandy clay

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Moderate
Available water capacity: Moderate to high
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid to moderately acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Nankin, Cowarts, and Gritney soils, which are on adjacent side slopes and have a subsoil that is shallower than the subsoil of the Faceville soil
- Orangeburg soils, which are in the slightly lower positions and are fine-loamy

Similar soils:
- Soils that are similar to the Faceville soil but have a surface layer of loamy sand or sandy clay loam

Land Use

Dominant uses: Cropland
Other uses: Pasture, hayland, and woodland

Cropland
Suitability: Well suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.

Pasture and hayland
Suitability: Well suited

Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: None
Management measures and considerations:
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine and slash pine
Management concerns: None
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Establishing a permanent plant cover on roads and landings after the completion of logging reduces the hazard of erosion and helps to control the siltation of streams.

Dwellings
Suitability: Well suited to dwellings with or without basements
Management concerns: The clayey subsoil is a moderate concern affecting buildings with basements.
Management measures and considerations:
- Reinforcing basements walls and backfilling with coarse material help to minimize the damage caused by shrinking and swelling of the soil.
- Vegetating cleared-and-graded areas as soon as possible or constructing silt fences helps to maintain soil stability and prevents sediment from leaving the site.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Moderate permeability
Management measures and considerations:
- Increasing the size of the absorption field improves the performance of the system.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material and improve trafficability.
- Designing roads to safely remove surface water improves soil performance.

Interpretive Groups

Land capability classification: 2e

FeC—Faceville sandy loam, 5 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Broad ridges
Landform position: Convex interfluves and shoulder slopes
Size of areas: 5 to 100 acres

Composition

Faceville and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 4 inches—brown sandy loam

Subsurface layer:
4 to 7 inches—yellowish red sandy clay loam

Subsoil:
7 to 65 inches—red sandy clay

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Moderate
Available water capacity: Moderate to high
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid to moderately acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Nankin, Cowarts, and Gritney soils, which are on the adjacent side slopes and have a subsoil that is shallower than the subsoil of the Faceville soil

- Orangeburg soils, which are in the slightly lower positions and are fine-loamy

Similar soils:
- Soils that are similar to the Faceville soil but have a surface layer of loamy sand or sandy clay loam

Land Use

Dominant uses: Cropland
Other uses: Pasture, hayland, and woodland

Cropland
Suitability: Suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and a rotation that includes soil-conserving crops reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: None
Management measures and considerations:
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine and slash pine
Management concerns: None
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Establishing a permanent plant cover on roads and landings after the completion of logging reduces the hazard of erosion and helps to control the siltation of streams.

Dwellings
Suitability: Well suited to dwellings without basements and suited to dwellings with basements
Management concerns: None
Management measures and considerations:
- Reinforcing basements walls and backfilling with coarse material help to minimize the damage caused by shrinking and swelling of the soil.
- Vegetating cleared-and-graded areas as soon as possible or constructing silt fences helps to maintain soil stability and prevents sediment from leaving the site.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Moderate permeability
Management measures and considerations:
- Increasing the size of the absorption field improves the performance of the system.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None

Interpretive Groups

Land capability classification: 3e

FuB—Fuquay loamy sand, 0 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and adjacent side slopes
Size of areas: 5 to 500 acres

Composition

Fuquay and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 8 inches—brown loamy sand

Subsurface layer:
8 to 32 inches—yellowish brown loamy sand

Subsoil:
32 to 40 inches—yellow sandy loam
40 to 58 inches—yellow sandy clay loam; 10 percent nodular plinthite; mottles in shades of red, yellow, brown, and gray
58 to 65 inches—strong brown sandy clay loam; 3 percent nodular plinthite; mottles in shades of red, yellow, brown, and gray

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 4 to 6 feet, January through March
Permeability: Rapid in the surface and subsurface layers, moderate in the upper part of the subsoil, and slow in the lower part of the subsoil
Available water capacity: Low to moderate
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid to moderately acid, except where lime has been applied
Other distinctive properties: 5 to 10 percent plinthite below a depth of 35 inches

Minor Components

Dissimilar soils:
- Blanton soils, which are in the slightly higher positions and have a sandy surface layer that is 40 to 60 inches thick
- Bonneau soils, which are in positions similar to those of the Fuquay soil and have less than 5 percent plinthite within a depth of 60 inches
- Dothan soils, which are in positions similar to those of the Fuquay soil and have a surface layer that is less than 20 inches thick

Similar soils:
- Areas of Fuquay soils that have a slope of more than 5 percent

Land Use

Dominant uses: Cropland
Other uses: Pasture and woodland

Cropland
Suitability: Moderately well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: Low available water capacity
Management measures and considerations:
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: Low available water capacity; low nutrient holding capacity in the surface layer
Management measures and considerations:
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Moderately well suited
Productivity class: Moderately high for loblolly pine and high for longleaf pine and slash pine
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Establishing a permanent plant cover on roads and log landings, reforesting immediately after harvesting, and preparing sites with recommended species reduce the hazard of erosion and help to control siltation of streams.

Dwellings
Suitability: Well suited to dwellings without basements and moderately well suited to dwellings with basements
Management concerns: Seasonal high water table
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.
- Vegetating cleared-and-graded areas as soon as possible or constructing silt fences helps to maintain soil stability and prevents sediment from leaving the site.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Slow permeability in the lower part of the subsoil; seasonal high water table
Management measures and considerations:
- Installing the absorption fields on the highest part of

the landscape and installing a subsurface drainage system help to overcome the wetness.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited
Management concerns: None
Management measures and considerations:
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and prevents excessive erosion.

Interpretive Groups

Land capability classification: 2s

GoA—Goldsboro loamy sand, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Slightly concave interfluves
Size of areas: 5 to 25 acres

Composition

Goldsboro and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 5 inches—dark gray loamy sand

Subsurface layer:
5 to 10 inches—grayish brown loamy sand

Subsoil:
10 to 17 inches—light yellowish brown sandy loam that has olive yellow mottles
17 to 25 inches—olive yellow sandy clay loam that has yellowish brown, yellow, and gray mottles
25 to 40 inches—brownish yellow clay loam that has yellowish brown and gray mottles
40 to 50 inches—yellowish brown sandy clay that has strong brown and gray mottles
50 to 65 inches—light gray sandy clay that has brownish and yellow mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches, but root growth may be limited by a seasonal high water table
Drainage class: Moderately well drained
Depth to seasonal high water table: 2 to 3 feet, apparent, December through April
Permeability: Moderate
Available water capacity: Moderate to high
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Well drained Norfolk and Orangeburg soils in the slightly higher, more convex positions
- Poorly drained Pelham and very poorly drained Grady soils in the lower, depressional areas
- Scattered areas of well drained soils consisting of stratified sandy and loamy alluvium along drainageways that are occasionally flooded for brief periods

Similar soils:
- Scattered areas of soils that are similar to the Goldsboro soil, are adjacent to depressions, and are somewhat poorly drained
- Scattered areas of soils that are similar to the Goldsboro soil but have a surface layer of loamy fine sand or sandy loam

Land Use

Dominant uses: Cropland
Other uses: Pasture, hayland, and woodland

Cropland
Suitability: Well suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Seasonal wetness; soil blowing
Management measures and considerations:
- Installing and maintaining an artificial drainage system helps to overcome the wetness and increases productivity.
- Restricting tillage when the soil is wet helps to prevent clodding and crusting.
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Seasonal wetness
Management measures and considerations:
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for slash pine and loblolly pine
Management concerns: None
Management measures and considerations:
- Restricting logging to periods when the soil is not saturated minimizes rutting of the surface layer and compaction of the subsoil.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Establishing a permanent plant cover on roads and log landings, reforesting immediately after harvesting, and preparing sites with recommended species reduce the hazard of erosion and help to control siltation of streams.

Dwellings
Suitability: Well suited to dwellings without basements and unsuited to dwellings with basements
Management concerns: The seasonal high water table is a severe limitation affecting buildings with basements.
Management measures and considerations:
- Vegetating cleared-and-graded areas as soon as possible or constructing silt fences helps to maintain soil stability and prevents sediment from leaving the site.
- This soil has severe limitations as a site for dwellings with basements. A site with better suited soils should be selected.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: The seasonal high water table is a severe limitation.
Management measures and considerations:
- This map unit is unsuited to septic tank absorption fields because of the seasonal high water table. The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Designing roads to safely remove surface water improves soil performance.

Interpretive Groups

Land capability classification: 2w

GrA—Grady sandy loam, ponded

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Upland depressions
Size of areas: 3 to 20 acres

Composition

Grady and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—dark gray sandy loam

Subsoil:
6 to 12 inches—grayish brown clay that has strong brown and light brown mottles
12 to 40 inches—grayish brown clay that has light gray and strong brown mottles
40 to 65 inches—mottled grayish brown, light gray, and strong brown sandy clay

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: Very deep, but root growth may be limited by a seasonal high water table and ponding
Drainage class: Poorly drained
Seasonal high water table: 2 feet above the surface to 1 foot below the surface, December through June
Permeability: Slow
Available water capacity: Moderate to high
Ponding: Frequent, December through June
Content of organic matter in the surface layer: Moderately low or moderate
Natural fertility: Low
Tilth: Fair when drained
Reaction: Extremely acid to strongly acid throughout, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Moderately well drained, fine-loamy Goldsboro and well drained Norfolk soils in the higher adjacent positions

Similar soils:
- Poorly drained soils that have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Poorly drained soils that have a subsoil that is less than 60 inches thick
- Areas that have a thick, dark surface layer
- Areas of fine-loamy, poorly drained soils in positions similar to those of the Grady soil

Land Use

Dominant uses: Woodland and wildlife habitat

Cropland
Suitability: Unsuited
Commonly grown crops: Corn, grain sorghum, and soybeans
Management concerns: Ponding and wetness

Pasture and hayland
Suitability: Unsuited
Management concerns: Ponding and wetness

Woodland
Suitability: Poorly suited
Productivity class: Moderately high for water tupelo
Management concerns: Seedling mortality
Management measures and considerations:
- This map unit is best reforested by managing for natural regeneration of hardwoods.
- Mechanized management operations should be scheduled for late summer and early fall when the water table is lowest.
- Using low-pressure ground equipment minimizes rutting of the surface layer and compaction of the subsoil.
- If the soil is drained and planted, the seedlings should be planted on raised beds and the number of seedlings should be larger than the number typically planted on other soils.

Dwellings
Suitability: Unsuited
Management concerns: Ponding and wetness

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Ponding and wetness

Local roads and streets
Suitability: Unsuited

Interpretive Groups

Land capability classification: 5w

HvA—Hornsville fine sandy loam, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Broad stream terraces
Landform position: Smooth, level flats
Size of areas: 5 to 50 acres

Composition

Hornsville and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsurface layer:
6 to 10 inches—light yellowish brown sandy loam

Subsoil:
10 to 16 inches—strong brown clay loam that has red mottles
16 to 24 inches—strong brown clay that has red mottles
24 to 28 inches—mottled reddish yellow, red, and light gray clay loam
28 to 65 inches—mottled red, reddish yellow, and light gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal high water table: 2½ to 3½ feet, December through April
Permeability: Moderately slow
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Extremely acid to strongly acid throughout, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Well drained Nankin soils that are on high side

slopes and have a 20 percent decrease in clay content within a depth of 60 inches
- Somewhat poorly drained Wahee soils in depressions
- Well drained Orangeburg and Lucy soils that are on the higher ridges and have a subsoil that contains less clay than the subsoil of the Hornsville soil

Similar soils:
- Areas of Hornsville soils that have a surface layer of loamy fine sand
- Areas of Hornsville soils that have a slope of more than 2 percent

Land Use

Dominant uses: Woodland
Other uses: Pasture and wildlife habitat

Cropland
Suitability: Suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Seasonal wetness; moderately slow permeability
Management measures and considerations:
- Installing and maintaining an underground drainage system helps to overcome the wetness and increases productivity.
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Restricting tillage during wet periods helps to prevent clodding and crusting and increases infiltration of water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, and common bermudagrass
Management concerns: Seasonal wetness
Management measures and considerations:
- Installing cross fencing to enable rotational grazing when the soil is wet minimizes compaction, increases productivity, and helps to maintain good tilth.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine, slash pine, and yellow-poplar
Management concerns: Equipment use and erosion
Management measures and considerations:
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting and helps to overcome the equipment limitations.
- Establishing a permanent plant cover on roads and landings after the completion of logging reduces the hazard of erosion and helps to control the siltation of streams.
- Restricting logging operations to periods when the soil is not saturated helps to prevent rutting and the damage to tree roots caused by compaction.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited to dwellings without basements and poorly suited to dwellings with basements
Management concerns: Wetness
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- This soil has severe limitations as a site for dwellings with basements. A site with better suited soils should be selected.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Seasonal high water table and slow permeability
Management measures and considerations:
- This map unit is unsuited to septic tank absorption fields because of the seasonal high water table. The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the roadbed helps to overcome the low strength of the natural soil material.
- Designing roads to safely remove surface water improves soil performance.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and prevents excessive erosion.

Interpretive Groups

Land capability classification: 2w

LkB—Lakeland sand, 0 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges; side slopes of interfluves
Size of areas: 10 to 300 acres

Composition

Lakeland and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 9 inches—dark grayish brown sand

Substratum:
9 to 40 inches—brownish yellow sand
40 to 80 inches—yellow sand that has very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Excessively drained
Depth to seasonal high water table: More than 6 feet
Permeability: Rapid
Available water capacity: Low to very low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Poor
Reaction: Very strongly acid to moderately acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Lucy soils, which are in the lower positions and have a subsoil that contains more clay within a depth of 20 to 40 inches than the subsoil of the Lakeland soil contains within a similar depth
- Orangeburg soils, which are in the slightly lower positions and on adjacent side slopes and have a subsoil that contains more clay within a depth of 20 inches than the subsoil of the Lakeland soil contains within a similar depth
- Troup soils, which are in landscape positions similar to those of the Lakeland soil and have a subsoil that contains more clay within a depth of 40 to 80 inches than the subsoil of the Lakeland soil contains within a similar depth

Similar soils:
- A few areas of soils that are in positions similar to those of the Lakeland soil but have layers of loamy sand

Land Use

Dominant uses: Woodland
Other uses: Pasture, hayland, and cropland

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Low available water capacity and low nutrient holding capacity
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Using supplemental irrigation and planting crop varieties that are adapted to droughty conditions increase productivity.
- Using split applications increases the effectiveness of fertilizer and herbicides.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Moderate—equipment use, droughtiness, nutrient leaching, and low soil fertility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Using equipment that has low-pressure tires reduces the slippage and rutting caused by the high content of sand in the soil.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Woodland
Suitability: Well suited

Productivity class: Moderate for slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment use
Management measures and considerations:
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Establishing a permanent plant cover on roads and landings after the completion of logging reduces the hazard of erosion and helps to control the siltation of streams.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited to dwellings with or without basements
Management concerns: Instability of cutbanks
Management measures and considerations:
- Cutbanks are unstable and are subject to slumping. Bracing should be used to reduce the severe risk of caving.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Poor filtration
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None

Interpretive Groups

Land capability classification: 4s

LkD—Lakeland sand, 5 to 12 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Convex side slopes
Size of areas: 10 to 150 acres

Composition

Lakeland and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 9 inches—dark grayish brown sand

Substratum:
9 to 40 inches—brownish yellow sand
40 to 80 inches—yellow sand that has very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Excessively drained
Depth to seasonal high water table: More than 6 feet
Permeability: Rapid
Available water capacity: Very low or low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Poor
Reaction: Very strongly acid to moderately acid throughout, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Lucy soils, which are in the lower positions and have a subsoil that contains more clay within a depth of 20 to 40 inches than the subsoil of the Lakeland soil contains within a similar depth
- Cowarts soils, which are in the lower positions on the slope and toe slope and have a subsoil that contains more clay than the subsoil of the Lakeland soil
- Nankin soils, which are on the adjacent, lower side slopes and have a clayey subsoil

Similar soils:
- A few areas of soils that are similar to the Lakeland soil but have surface and subsurface layers of loamy sand

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Cropland
Suitability: Unsuited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Erosion, slope, low available water capacity, and low nutrient holding capacity
Management measures and considerations:
- This map unit is severely limited for use as cropland. A site with better suited soils should be selected.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Moderate—equipment use, doughtiness, nutrient leaching, and low soil fertility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Using equipment that has low-pressure tires reduces the slippage and rutting caused by the high content of sand in the soil.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Woodland
Suitability: Suited
Productivity class: Moderate for loblolly pine, slash pine, and longleaf pine
Management concerns: Equipment use and erosion
Management measures and considerations:
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Establishing a permanent plant cover on roads and landings after the completion of logging reduces the hazard of erosion and helps to control the siltation of streams.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited to dwellings with or without basements
Management concerns: Moderate—slope; severe—instability of cutbanks
Management measures and considerations:
- Cutting and filling or building in the less slopping areas helps to overcome the slope limitation.
- Cutbanks are unstable and are subject to slumping. Bracing should be used to reduce the severe risk of caving.
- Vegetating cleared-and-graded areas as soon as possible or constructing silt fences helps to maintain soil stability and prevents sediment from leaving the site.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Moderate—slope and seepage
Management measures and considerations:
- Distribution lines should be installed on the contour at a proper distance from wells and water bodies.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Moderate—slope
Management measures and considerations:
- Building roads on the contour and cutting and filling help to overcome the slope limitation.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site and should be used during development.

Interpretive Groups

Land capability classification: 6s

LmB—Lucy loamy sand, 0 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges and adjacent side slopes
Size of areas: 5 to 200 acres

Composition

Lucy and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 7 inches—dark grayish brown loamy sand

Subsurface layer:
7 to 28 inches—brown loamy sand

Subsoil:
28 to 33 inches—strong brown sandy loam
33 to 40 inches—yellowish red sandy clay loam
40 to 50 inches—red sandy clay loam

50 to 65 inches—red sandy clay loam that has yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Rapid in the surface and subsurface layers, moderate in the subsoil
Available water capacity: Low
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Blanton soils, which are in the slightly higher positions and have a sandy surface layer that is 40 to 60 inches thick
- Fuquay soils, which are in positions similar to those of the Lucy soil and have 5 percent or more plinthite within a depth of 60 inches
- Dothan soils, which are in positions similar to those of the Lucy soil, have more than 5 percent plinthite, and have a surface layer that is less than 20 inches thick
- Orangeburg soils, which are in the slightly lower positions and have a surface layer that is less than 20 inches thick

Similar soils:
- Soils that are similar to the Lucy soil but have a subsurface layer of sandy loam within a depth of 20 inches

Land Use

Dominant uses: Cropland, pasture, and woodland

Cropland
Suitability: Moderately well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: Erosion and low available water capacity; low nutrient holding capacity in the surface layer
Management measures and considerations:
- A conservation tillage system increases the content of organic matter and helps to conserve soil moisture.
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, common bermudagrass, bahiagrass, and ryegrass
Management concerns: Low available water capacity; low nutrient holding capacity in the surface layer
Management measures and considerations:
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Woodland
Suitability: Suited
Productivity class: Moderately high for loblolly pine, longleaf pine, and slash pine
Management concerns: Equipment use
Management measures and considerations:
- Planting and harvesting should be scheduled for periods when the soil has the proper moisture content.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited
Management concerns: None

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Poor filter
Management measures and considerations:
- Distribution lines should be installed at a proper distance from wells and water bodies.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None

Interpretive Groups

Land capability classification: 2s

LmC—Lucy loamy sand, 5 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and adjacent side slopes
Size of areas: 5 to 50 acres

Composition

Lucy and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 7 inches—dark grayish brown loamy sand

Subsurface layer:
7 to 28 inches—brown loamy sand

Subsoil:
28 to 33 inches—strong brown sandy loam
33 to 40 inches—yellowish red sandy clay loam
40 to 50 inches—red sandy clay loam
50 to 65 inches—red sandy clay loam that has yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Rapid in the surface and subsurface layers, moderate in the subsoil
Available water capacity: Low
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Blanton soils, which are in the slightly higher positions and have a sandy surface layer that is 40 to 60 inches thick
- Fuquay soils, which are in positions similar to those of the Lucy soil and have 5 percent or more plinthite within a depth of 60 inches
- Dothan soils, which are in positions similar to those of the Lucy soil, have more than 5 percent plinthite, and have a surface layer that is less than 20 inches thick
- Orangeburg soils, which are in the slightly lower positions and have a surface layer that is less than 20 inches thick

Similar soils:
- A few areas of soils that are similar to the Lucy soil but have subsurface layers of sandy loam within a depth of 20 inches

Land Use

Dominant uses: Cropland and pasture
Other uses: Woodland

Cropland
Suitability: Moderately well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: Erosion and low available water capacity; low nutrient holding capacity in the surface layer
Management measures and considerations:
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Including grasses and legumes in the cropping system reduces the hazard of erosion and helps to control runoff.
- Stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, common bermudagrass, bahiagrass, and ryegrass
Management concerns: Low available water capacity; low nutrient holding capacity in the surface layer
Management measures and considerations:
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Suited
Productivity class: Moderately high for loblolly pine, longleaf pine, and slash pine
Management concerns: Erosion
Management measures and considerations:
- Planting and harvesting should be scheduled for periods when the soil has the proper moisture content.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited
Management concerns: None

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Poor filter
Management measures and considerations:
- Distribution lines should be installed at a proper distance from wells and water bodies.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None

Interpretive Groups

Land capability classification: 3s

LnA—Lynchburg fine sandy loam, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Interstream divides; shallow depressions
Landform position: Slightly concave interfluves
Size of areas: 5 to 25 acres

Composition

Lynchburg and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 9 inches—dark gray fine sandy loam

Subsurface layer:
9 to 18 inches—light gray fine sandy loam that has strong brown mottles

Subsoil:
18 to 22 inches—yellowish brown sandy clay loam that has light brownish gray and brownish yellow mottles
22 to 34 inches—light gray sandy clay loam that has strong brown mottles
34 to 56 inches—light gray sandy clay loam that has red and brownish yellow mottles
56 to 65 inches—gray sandy clay loam that has strong brown mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches, but root growth may be limited by a seasonal high water table
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: 1/2 to 1 1/2 feet, apparent, December through April
Permeability: Moderate
Available water capacity: Moderate to high
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Extremely acid to strongly acid throughout, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Well drained Norfolk and Orangeburg soils in the higher, more convex positions
- Moderately well drained Goldsboro soils
- Poorly drained Pelham and very poorly drained Grady soils in the lower, depressional areas
- Ocilla soils, which are in positions similar to those of the Lynchburg soil or higher and have sandy surface and subsurface layers with a combined thickness of 20 to 40 inches
- Well drained soils consisting of stratified sandy and loamy alluvium along drainageways that are occasionally flooded for brief periods

Similar soils:
- Moderately well drained soils that are similar to the Lynchburg soil and are adjacent to the depressions
- Soils that are similar to the Lynchburg soil but have a surface layer of sandy loam

Land Use

Dominant uses: Cropland and woodland
Other uses: Pasture and hayland

Cropland
Suitability: Suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Seasonal wetness
Management measures and considerations:
- Installing and maintaining an artificial drainage system helps to overcome the wetness and increases productivity.
- Restricting tillage when the soil is wet helps to prevent clodding and crusting.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Seasonal wetness
Management measures and considerations:
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for slash pine and loblolly pine
Management concerns: Moderate—seedling mortality and equipment use
Management measures and considerations:
- Proper site preparation, herbicides, and prescribed burning help to control competition from undesirable plant species.
- Logging operations should be restricted to periods when the soil is not saturated.
- Establishing a permanent plant cover on roads and log landings, reforesting immediately after harvesting, and preparing sites with recommended species reduce the hazard of erosion and help to control siltation of streams.
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Increasing planting rates and planting in raised beds help to offset the seedling mortality rate.

Dwellings
Suitability: Poorly suited to dwellings without basements and unsuited to dwellings with basements
Management concerns: The seasonal high water table is a severe limitation affecting buildings with or without basements.
Management measures and considerations:
- Building on material brought in from offsite helps to overcome the wetness.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: The seasonal high water table is a severe limitation.
Management measures and considerations:
- This map unit is unsuited to septic tank absorption fields because of the seasonal high water table. The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Unsuited
Management concerns: Seasonal wetness is a severe limitation.
Management measures and considerations:
- Using material brought in from offsite as fill for the subgrade and building roads on the highest part of the landscape help to overcome the wetness.
- Designing roads to safely remove surface water improves soil performance.

Interpretive Groups

Land capability classification: 2w

NaB—Nankin loamy fine sand, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Upper side slopes
Size of areas: 5 to 175 acres

Composition

Nankin and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—brown loamy fine sand

Subsoil:
6 to 21 inches—yellowish red sandy clay
21 to 32 inches—yellowish red sandy clay that has red and brownish yellow mottles
32 to 39 inches—yellowish red sandy clay that has brownish yellow mottles

39 to 50 inches—yellowish red sandy clay loam that has red and brownish yellow mottles

Substratum:
50 to 65 inches—mottled red, brownish yellow, and pinkish gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Moderately slow
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Fair
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Cowarts soils, which are on adjacent side slopes and have a subsoil that contains less clay than the subsoil of the Nankin soil
- Orangeburg soils, which are in the slightly lower positions, have a subsoil that contains less clay than the subsoil of the Nankin soil, and have no significant decrease in clay content within a depth of 60 inches
- Tifton soils, which are on broad, convex slopes, are less red than the Nankin soil, and contain 5 percent or more plinthite at a depth of 40 to 60 inches

Similar soils:
- Soils that are similar to the Nankin soil but have a surface layer of loamy sand or sandy clay loam

Land Use

Dominant uses: Pasture and cropland
Other uses: Woodland

Cropland
Suitability: Well suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, stripcropping, contour farming, conservation tillage, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Restricting tillage when the soil is wet helps to prevent clodding and crusting.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: None
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine, longleaf pine, and slash pine
Management concerns: None
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited
Management concerns: None

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Slow permeability
Management measures and considerations:
- Increasing the size of the absorption field improves the performance of the system.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None

Interpretive Groups

Land capability classification: 2e

NcC—Nankin-Cowarts complex, 5 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Nankin—ridges; Cowarts—side slopes
Size of areas: 10 to 100 acres

Composition

Nankin and similar soils: 40 percent
Cowarts and similar soils: 35 percent
Dissimilar soils: 25 percent

Typical Profile

Nankin
Surface layer:
0 to 6 inches—brown loamy fine sand

Subsoil:
6 to 21 inches—yellowish red sandy clay
21 to 32 inches—yellowish red sandy clay that has red and brownish yellow mottles
32 to 39 inches—yellowish red sandy clay that has brownish yellow mottles
39 to 50 inches—yellowish red sandy clay loam that has red and brownish yellow mottles

Substratum:
50 to 65 inches—mottled red, brownish yellow, and pinkish gray sandy clay loam

Cowarts
Surface layer:
0 to 4 inches—brown loamy sand

Subsurface layer:
4 to 9 inches—yellowish brown sandy loam

Subsoil:
9 to 18 inches—strong brown sandy clay loam
18 to 25 inches—yellowish red sandy clay loam
25 to 31 inches—yellowish red sandy clay loam that has yellowish brown mottles

Substratum:
31 to 65 inches—mottled brownish yellow, yellowish brown, and white sandy loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: Nankin—more than 60 inches, but root growth may be limited by dense lower layers; Cowarts—more than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Nankin—slow; Cowarts—moderate
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Nankin—low or moderately low; Cowarts—moderately low or moderate
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: Nankin—none; Cowarts—few quartz pebbles on the surface in some areas

Minor Components

Dissimilar soils:
- Bonneau and Fuquay soils, which are on broad ridgetops and have thick, sandy surface layers
- Carnegie soils, which are on the adjacent ridgetops and have 5 percent or more plinthite within a depth of 20 to 50 inches

Similar soils:
- Areas of eroded soils that have a surface texture of sandy loam or sandy clay loam

Land Use

Dominant uses: Woodland
Other uses: Pasture

Cropland
Suitability: Moderately well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, and small grains
Management concerns: Erosion and slope
Management measures and considerations:
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and a rotation that includes soil-conserving crops reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soils.
- Restricting tillage during wet periods helps to prevent clodding and crusting and increases infiltration of water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: Erosion and slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the

slope reduces the hazard of erosion and increases the rate of germination.
- Installing cross fencing to enable rotational grazing helps to keep the soils in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Suited
Productivity class: Nankin—moderately high for loblolly pine, longleaf pine, and slash pine; Cowarts—high for loblolly pine, longleaf pine, and slash pine
Management concerns: Erosion and slope
Management measures and considerations:
- Restricting logging operations to periods when the soils are not saturated minimizes rutting and the damage to tree roots caused by soil compaction.
- Establishing a permanent plant cover on roads and log landings, reforesting immediately after harvesting, and preparing sites with recommended species reduce the hazard of erosion and help to control siltation of streams.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Suited
Management measures and considerations:
- Cutting and filling, designing structures to conform to the contour of the natural slope, or building in the less sloping areas improve soil performance.
- Establishing a suitable vegetative cover, mulching, or both reduces the hazard of erosion.

Septic tank absorption fields
Suitability: Nankin—poorly suited; Cowarts—moderately well suited
Management concerns: Slow permeability and slope
Management measures and considerations:
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: Nankin—4e; Cowarts—3e

NcD—Nankin-Cowarts complex, 8 to 12 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Nankin—ridges; Cowarts—side slopes
Size of areas: 10 to 100 acres

Composition

Nankin and similar soils: 40 percent
Cowarts and similar soils: 35 percent
Dissimilar soils: 25 percent

Typical Profile

Nankin
Surface layer:
0 to 6 inches—brown loamy fine sand

Subsoil:
6 to 21 inches—yellowish red sandy clay
21 to 32 inches—yellowish red sandy clay that has red and brownish yellow mottles
32 to 39 inches—yellowish red sandy clay that has brownish yellow mottles
39 to 50 inches—yellowish red sandy clay loam that has red and brownish yellow mottles

Substratum:
50 to 65 inches—mottled red, brownish yellow, and pinkish gray sandy clay loam

Cowarts
Surface layer:
0 to 4 inches—brown loamy sand

Subsurface layer:
4 to 9 inches—yellowish brown sandy loam

Subsoil:
9 to 18 inches—strong brown sandy clay loam
18 to 25 inches—yellowish red sandy clay loam
25 to 31 inches—yellowish red sandy clay loam that has yellowish brown mottles

Substratum:
31 to 65 inches—mottled brownish yellow, yellowish brown, and white sandy loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: Nankin—more than 60 inches, but root growth may be limited by dense lower layers; Cowarts—more than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Nankin—slow; Cowarts—moderate
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Nankin—low or moderately low; Cowarts—moderately low or moderate
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: Nankin—none; Cowarts—few quartz pebbles on the surface in some areas

Minor Components

Dissimilar soils:
- Bonneau and Fuquay soils, which are on broad ridgetops and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Carnegie soils, which are on ridgetops and have 5 percent or more plinthite within a depth of 20 to 50 inches

Similar soils:
- Areas of eroded soils that have a surface texture of sandy loam or sandy clay loam

Land Use

Dominant uses: Woodland
Other uses: Pasture

Cropland
Suitability: Poorly suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, and small grains
Management concerns: Erosion and slope
Management measures and considerations:
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and a rotation that includes soil-conserving crops reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soils.
- Restricting tillage during wet periods helps to prevent clodding and crusting and increases infiltration of water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: Erosion and slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Installing cross fencing to enable rotational grazing helps to keep the soils in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Suited
Productivity class: Nankin—moderately high for loblolly pine, longleaf pine, and slash pine; Cowarts—high for loblolly pine, longleaf pine, and slash pine
Management concerns: Erosion and slope
Management measures and considerations:
- Restricting logging operations to periods when the soils are not saturated minimizes rutting and the damage to tree roots caused by soil compaction.
- Establishing a permanent plant cover on roads and log landings, reforesting immediately after harvesting, and preparing sites with recommended species reduce the hazard of erosion and help to control siltation of streams.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Cutting and filling, designing structures to conform to the contour of the natural slope, or building in the less sloping areas improve soil performance.
- Establishing a suitable vegetative cover, mulching, or both reduces the hazard of erosion.

Septic tank absorption fields
Suitability: Nankin—poorly suited; Cowarts—moderately well suited

Management concerns: Slow permeability and slope
Management measures and considerations:
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited
Management concerns: Slope
Management measures and considerations:
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: Nankin—6e; Cowarts—6e

NoA—Norfolk loamy sand, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges
Size of areas: 10 to 300 acres

Composition

Norfolk and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—very dark grayish brown loamy sand

Subsurface layer:
6 to 14 inches—brown sandy loam

Subsoil:
14 to 22 inches—yellowish brown sandy clay loam that has brownish yellow mottles
22 to 38 inches—brownish yellow sandy clay loam
38 to 52 inches—yellowish brown sandy clay loam that has strong brown and red mottles
52 to 65 inches—mottled yellowish red, strong brown, brownish yellow, yellowish brown, and light gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 4 to 6 feet, January through March
Permeability: Moderate
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Bonneau soils, which are in the higher positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Dothan soils, which are in the slightly higher positions and have 5 percent or more plinthite at a depth of 24 to 60 inches
- Orangeburg soils, which are in the slightly higher positions and have a subsoil that is redder in hue than the subsoil of the Norfolk soil
- Moderately well drained Goldsboro soils in the slightly lower positions
- Somewhat poorly drained Lynchburg soils in the slightly lower positions

Similar soils:
- Soils that are similar to the Norfolk soil but have a surface layer of loamy fine sand

Land Use

Dominant uses: Cropland and pasture (fig. 4)
Other uses: Woodland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: None
Management measures and considerations:
- A conservation tillage system increases the content of organic matter and conserves soil moisture.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass

Figure 4.—Cotton growing in an area of Norfolk loamy sand, 0 to 2 percent slopes.

Management concerns: None
Management measures and considerations:
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for longleaf pine and moderately high for slash pine and loblolly pine
Management concerns: None
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited to dwellings without basements and moderately well suited to dwellings with basements
Management concerns: The seasonal high water table is a moderate concern affecting buildings with basements.
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Seasonal high water table
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: Seasonal high water table
Management measures and considerations:
- Designing roads to safely remove surface water improves soil performance.

- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: 1

NoB—Norfolk loamy sand, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges
Size of areas: 10 to 300 acres

Composition

Norfolk and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—very dark grayish brown loamy sand

Subsurface layer:
6 to 14 inches—brown sandy loam

Subsoil:
14 to 22 inches—yellowish brown sandy clay loam that has brownish yellow mottles
22 to 38 inches—brownish yellow sandy clay loam
38 to 52 inches—yellowish brown sandy clay loam that has strong brown and red mottles
52 to 65 inches—mottled yellowish red, strong brown, brownish yellow, yellowish brown, and light gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 4 to 6 feet, January through March
Permeability: Moderate
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Bonneau soils, which are in the higher positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Dothan soils, which are in the slightly higher positions and have 5 percent or more plinthite at a depth of 24 to 60 inches
- Orangeburg soils, which are in the slightly higher positions and have a subsoil that is redder in hue than the subsoil of the Norfolk soil
- Moderately well drained Goldsboro soils in the slightly lower positions
- Somewhat poorly drained Lynchburg soils in the slightly lower positions

Similar soils:
- Soils that are similar to the Norfolk soil but have a surface layer of sandy loam

Land Use

Dominant uses: Cropland and pasture
Other uses: Woodland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: None
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.

- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for longleaf pine and moderately high for slash pine and loblolly pine
Management concerns: None
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited to dwellings without basements and moderately well suited to dwellings with basements
Management concerns: The seasonal high water table is a moderate concern affecting buildings with basements.
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Seasonal high water table
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: 2e

NoC—Norfolk loamy sand, 5 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and side slopes
Size of areas: 10 to 30 acres

Composition

Norfolk and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 4 inches—very dark grayish brown loamy sand

Subsurface layer:
4 to 14 inches—brown sandy loam

Subsoil:
14 to 22 inches—yellowish brown sandy clay loam that has brownish yellow mottles
22 to 38 inches—brownish yellow sandy clay loam
38 to 52 inches—yellowish brown sandy clay loam that has strong brown and red mottles
52 to 65 inches—mottled yellowish red, strong brown, brownish yellow, yellowish brown, and light gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 4 to 6 feet, January through March
Permeability: Moderate
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Bonneau soils, which are in the higher positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Dothan soils, which are in the slightly higher positions and have 5 percent or more plinthite at a depth of 24 to 60 inches
- Orangeburg soils, which are in the slightly higher positions and have a subsoil that is redder in hue than the subsoil of the Norfolk soil
- Cowarts soils, which are on slope breaks and have a decrease in clay content within a depth of 60 inches

Similar soils:
- Soils that are similar to the Norfolk soil but have a surface layer of sandy loam

Land Use

Dominant uses: Pasture and woodland
Other uses: Cropland

Cropland
Suitability: Moderately well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, and small grains
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture
- Conservation tillage, winter cover crops, crop residue management, and a crop rotation that includes grasses and legumes increase available water capacity, improve tilth, and improve soil fertility.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.

Woodland
Suitability: Well suited
Productivity class: High for longleaf pine and moderately high for slash pine and loblolly pine
Management concerns: None
Management measures and considerations:
- Mechanical and chemical means can help to control plant competition.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Restricting logging operations to periods when the soil is not saturated minimizes rutting and the damage to tree roots caused by soil compaction.

Dwellings
Suitability: Well suited to dwellings without basements and moderately well suited to dwellings with basements
Management concerns: Slope. Also, the seasonal high water table is a moderate concern affecting buildings with basements.
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.
- Cutting and filling or building in the less slopping areas helps to overcome the slope limitation.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Seasonal high water table
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited
Management concerns: None
Management measures and considerations:
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: 3e

OcA—Ocilla loamy fine sand, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Stream terraces and low uplands
Landform position: Slightly concave interfluves
Size of areas: 5 to 50 acres

Composition

Ocilla and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 3 inches—dark brown loamy fine sand

Subsurface layer:
3 to 27 inches—gray and light gray loamy fine sand

Subsoil:
27 to 45 inches—brownish yellow sandy clay loam that has strong brown and light gray mottles
45 to 55 inches—brownish yellow sandy clay loam that has strong brown and light gray mottles
55 to 65 inches—gray sandy clay that has red, strong brown, and brownish yellow mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches, but root growth may be limited by a seasonal high water table
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: 1 to 2½ feet, apparent, December through April
Permeability: Moderate
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Well drained Norfolk and Orangeburg soils in the higher and more convex positions
- Moderately well drained Goldsboro soils in the slightly higher positions
- Lynchburg soils in the slightly lower positions
- Poorly drained Pelham and Grady soils in the lower, depressional areas
- Areas of well drained soils consisting of stratified sandy and loamy alluvium along drainageways that are occasionally flooded for brief periods

Similar soils:
- Soils that are similar to the Ocilla soil, are adjacent to the depressions, and are moderately well drained
- Soils that are similar to the Ocilla soil but have a surface layer of loamy fine sand

Land Use

Dominant uses: Cropland and woodland
Other uses: Pasture and hayland

Cropland
Suitability: Moderately well suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Seasonal wetness; soil blowing
Management measures and considerations:
- Installing and maintaining an artificial drainage system helps to overcome the wetness and increases productivity.
- Restricting tillage when the soil is wet helps to prevent clodding and crusting.
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Seasonal wetness
Management measures and considerations:
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for slash pine and moderately high for loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Restricting logging to periods when the soil is not saturated minimizes rutting of the surface layer and compaction of the subsoil.
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Establishing a permanent plant cover on roads and log landings, reforesting immediately after harvesting, and preparing sites with recommended species reduce the hazard of erosion and help to control siltation of streams.

Dwellings
Suitability: Poorly suited to dwellings without basements and unsuited to dwellings with basements
Management concerns: The seasonal high water table is a severe limitation affecting buildings without or without basements.
Management measures and considerations:
- Filling the selected area with suitable material brought in from offsite helps to minimize wetness.
- This soil has severe limitations as a site for dwellings. A site with better suited soils should be selected.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness
Management measures and considerations:
- Because of the seasonal high water table, managing this map unit for septic tank absorption fields is difficult.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Seasonal wetness
Management measures and considerations:
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Designing roads to safely remove surface water improves soil performance.

Interpretive Groups

Land capability classification: 3w

OeA—Orangeburg loamy sand, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad, convex ridges
Size of areas: 5 to 125 acres

Composition

Orangeburg and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 8 inches—dark yellowish brown loamy sand

Subsurface layer:
8 to 13 inches—brown sandy loam

Subsoil:
13 to72 inches—red sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Moderate
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Faceville soils, which are in the slightly higher positions and have a clayey subsoil
- Nankin soils, which are on the adjacent side slopes and have a clayey subsoil
- Norfolk soils, which are in the slightly lower positions and have a subsoil that is more yellow than the subsoil of the Orangeburg soil

Similar soils:
- Soils that are similar to the Orangeburg soil but have a surface layer of sandy loam
- Orangeburg soils that have a slope of more than 2 percent, typically adjacent to drains

Land Use

Dominant uses: Cropland (fig. 5)
Other uses: Pasture, hayland, and woodland

Cropland
Suitability: Well suited
Commonly grown crops: Corn, small grains, cotton, grain sorghum, soybeans, and vegetable crops
Management concerns: None
Management measures and considerations:
- Conservation tillage, winter cover crops, crop residue management, and a crop rotation that includes grasses and legumes increase available water capacity, improve tilth, and improve soil fertility.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: None
Management measures and considerations:
- Using rotational grazing and implementing a well-

Figure 5.—Mature cotton growing in an area of Orangeburg loamy sand, 0 to 2 percent slopes.

planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for longleaf pine and slash pine and moderately high for loblolly pine
Management concerns: None
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited
Management concerns: None

Septic tank absorption fields
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None

Interpretive Groups

Land capability classification: 1

OeB—Orangeburg loamy sand, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad, convex ridges
Size of areas: 5 to 150 acres

Composition

Orangeburg and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 8 inches—dark yellowish brown loamy sand

Subsurface layer:
8 to 13 inches—brown sandy loam

Subsoil:
13 to 72 inches—red sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Moderate
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Faceville soils, which are in the slightly higher positions and have a clayey subsoil
- Nankin soils, which are on the adjacent side slopes and have a clayey subsoil
- Norfolk soils, which are in the slightly lower positions and have a subsoil that is more yellow than the subsoil of the Orangeburg soil

Similar soils:
- Soils that are similar to the Orangeburg soil but have a surface layer of sandy loam or sandy clay loam

Land Use

Dominant uses: Cropland
Other uses: Pasture, hayland, and woodland

Cropland
Suitability: Well suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, soybeans, and vegetable crops
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: None
Management measures and considerations:
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for longleaf pine and slash pine and moderately high for loblolly pine
Management concerns: None
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited
Management concerns: None

Septic tank absorption fields
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Designing roads to safely remove surface water improves soil performance.

Interpretive Groups

Land capability classification: 2e

OeC—Orangeburg loamy sand, 5 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and side slopes
Size of areas: 5 to 50 acres

Composition

Orangeburg and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 8 inches—dark yellowish brown loamy sand

Subsurface layer:
8 to 13 inches—brown sandy loam

Subsoil:
13 to 72 inches—red sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Moderate
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Faceville soils, which are in the slightly higher positions and have a clayey subsoil
- Nankin soils, which are on the adjacent side slopes and have a clayey subsoil
- Norfolk soils, which are in the slightly lower positions and have a subsoil that is more yellow than the subsoil of the Orangeburg soil

Similar soils:
- Soils that are similar to the Orangeburg soil but have a surface layer of sandy loam or sandy clay loam

Land Use

Dominant uses: Woodland
Other uses: Pasture, hayland, and woodland

Cropland
Suitability: Suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and a rotation that includes soil-conserving crops reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: None
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for longleaf pine and slash pine and moderately high for loblolly pine
Management concerns: None
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Structures can be designed to conform to the natural slope or can be built in the less sloping areas.

Septic tank absorption fields
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None

Interpretive Groups

Land capability classification: 3e

OeD—Orangeburg loamy sand, 8 to 12 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and side slopes
Size of areas: 5 to 60 acres

Composition

Orangeburg and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 5 inches—dark yellowish brown loamy sand

Subsurface layer:
5 to 13 inches—brown sandy loam

Subsoil:
13 to 72 inches—red sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Moderate
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Faceville soils, which are in the slightly higher positions and have a clayey subsoil
- Nankin soils, which are on the adjacent side slopes and have a clayey subsoil
- Norfolk soils, which are in the slightly lower positions and have a subsoil that is more yellow than the subsoil of the Orangeburg soil

Similar soils:
- Soils that are similar to the Orangeburg soils but have a surface layer of sandy clay loam

Land Use

Dominant uses: Woodland
Other uses: Pasture

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and a rotation that includes soil-conserving crops reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.

Pasture and hayland
Suitability: Well suited to pasture and moderately well suited to hayland
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for longleaf pine and slash pine and moderately high for loblolly pine
Management concerns: Erosion
Management measures and considerations:
- Establishing a permanent plant cover on roads and log landings, reforesting immediately after harvesting, and preparing sites with recommended species reduce the hazard of erosion and help to control siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour reduces the accelerated rates of erosion associated with these surface disturbances.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Moderately well suited
Management concerns: Slope
Management measures and considerations:
- Structures can be designed to conform to the natural slope or can be built in the less sloping areas.

- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Septic tank absorption fields
Suitability: Well suited
Management concerns: Slope
Management measures and considerations:
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited
Management concerns: Slope
Management measures and considerations:
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: 4e

OSA—Osier and Bibb soils, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains and drainageways
Landform position: Osier—adjacent to and near stream channels; Bibb—along the edge and inner parts of flood plains
Size of areas: 50 to 800 acres

Composition

Osier and similar soils: 50 percent
Bibb and similar soils: 30 percent
Dissimilar soils: 20 percent

Typical Profile

Osier
Surface layer:
0 to 8 inches—dark gray loamy fine sand

Substratum:
8 to 15 inches—gray loamy fine sand
15 to 45 inches—grayish brown fine sand
45 to 55 inches—light brownish gray fine sand
55 to 65 inches—light gray fine sand stratified with layers of medium sand

Bibb
Surface layer:
0 to 5 inches—dark gray loamy fine sand

Substratum:
5 to 10 inches—very dark gray fine sandy loam that has brownish yellow and yellowish red mottles
10 to 45 inches—very dark gray fine sandy loam that has red mottles
45 to 65 inches—light gray sand that has yellow mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches, but root growth is limited by seasonal wetness
Drainage class: Poorly drained
Seasonal high water table: Osier—at the surface to a depth of 1/2 foot, November through March; Bibb—at a depth of 1/2 to 1 foot, December through April
Permeability: Rapid
Available water capacity: Osier—low; Bibb—medium
Flooding: Frequent
Content of organic matter in the surface layer: Moderate
Natural fertility: Low
Tilth: Good
Reaction: Osier—extremely acid or very strongly acid; Bibb—very strongly acid or strongly acid
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Pelham soils, which are on the slightly higher ridges and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Ocilla soils, which are on the slightly higher ridges, are somewhat poorly drained, and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Lynchburg soils, which are on the slightly higher ridges and are somewhat poorly drained
- Goldsboro soils, which are on the higher interstream divides, are moderately well drained, and have a sandy surface layer that is less than 20 inches thick

Similar soils:
- Soils that are similar to the Osier and Bibb soils but have a thick, dark surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture

Cropland
Suitability: Unsuited
Commonly grown crops: None
Management concerns: This map unit is severely limited for use as cropland because of the flooding and seasonal wetness.

Pasture and hayland
Suitability: Poorly suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: Flooding and seasonal wetness
Management measures and considerations:
- Harvesting hay as soon as possible reduces the risk of damage from flooding.
- Restricting grazing when the soils are too wet minimizes compaction and helps maintain productivity and tilth.

Woodland
Suitability: Moderately suited
Productivity class: High for slash pine and loblolly pine
Management concerns: Flooding, seasonal wetness, and seedling mortality
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods minimizes rutting and the damage caused to roots by compaction.
- Harvesting timber during the summer months reduces the risk of damage from the flooding.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Establishing a permanent plant cover on roads and log landings, reforesting immediately after harvesting, and preparing sites with recommended species reduce the hazard of erosion and help to control siltation of streams.

Dwellings
Suitability: Unsuited
Management concerns: Flooding and seasonal wetness

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Flooding and seasonal wetness

Local roads and streets
Suitability: Unsuited
Management concerns: Flooding and seasonal wetness

Interpretive Groups

Land capability classification: 5w

PeA—Pelham loamy fine sand, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Slightly concave interfluves
Size of areas: 5 to 325 acres

Composition

Pelham similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—gray loamy fine sand
6 to 25 inches—gray loamy fine sand
25 to 30 inches—gray loamy sand that has brownish yellow mottles

Subsoil:
30 to 65 inches—light gray and gray sandy clay loam that has yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches, but root growth may be limited by the seasonal high water table
Drainage class: Poorly drained
Seasonal high water table: At the surface to a depth of 1 foot, apparent, January through April
Permeability: Moderate
Available water capacity: Moderate
Flooding: Frequent
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Fair
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Bibb, Osier, and Grady soils in the lower, depressional areas

- Somewhat poorly drained Ocilla and moderately well drained Goldsboro soils in the higher positions around the edge of the flood plains
- Well drained soils consisting of stratified sandy and loamy alluvium along drainageways

Similar soils:
- Soils that are similar to the Pelham soil, are adjacent to the depressions, and have a thick, dark surface layer.

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Cropland
Suitability: Unsuited
Commonly grown crops: None
Management concerns: Flooding and seasonal wetness

Pasture and hayland
Suitability: Poorly suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: Flooding and seasonal wetness
Management measures and considerations:
- Installing cross fencing to enable rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Suited
Productivity class: High for slash pine and loblolly pine
Management concerns: Flooding, seasonal wetness, and seedling mortality
Management measures and considerations:
- Restricting logging to periods when the soil is not saturated minimizes rutting of the surface layer and compaction of the subsoil.
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Increasing planting rates and planting on raised beds help to offset the seedling mortality rate.
- Establishing a permanent plant cover on roads and log landings, reforesting immediately after harvesting, and preparing sites with recommended species reduce the hazard of erosion and help to control siltation of streams.

Dwellings
Suitability: Unsuited
Management concerns: Flooding and wetness

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Flooding and wetness

Local roads and streets
Suitability: Unsuited
Management concerns: Flooding and wetness

Interpretive Groups

Land capability classification: 5w

ReA—Rembert sandy loam, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Depressions and drainageways
Size of areas: 5 to 100 acres

Composition

Rembert and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 9 inches—dark grayish brown sandy loam

Subsurface layer:
9 to 12 inches—grayish brown sandy loam

Subsoil:
12 to 39 inches—dark gray clay that has red mottles
39 to 52 inches—dark gray clay that has brownish yellow mottles
52 to 65 inches—light gray sandy clay loam that has yellowish red mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Poorly drained
Seasonal high water table: 1 foot above the surface to 1 foot below the surface, December through April
Permeability: Slow
Available water capacity: Moderate
Flooding: Frequent
Content of organic matter in the surface layer: Moderately low
Natural fertility: Low

Tilth: Fair
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Grady soils, which are in positions similar to those of the Rembert soil and do not have a 20 percent decrease in clay content within a depth of 60 inches
- Pelham soils, which are in positions similar to those of the Rembert soil, have a sandy surface layer that ranges from 20 to 40 inches in thickness, and have a fine-loamy subsoil
- Somewhat poorly drained Wahee soils on stream terraces

Similar soils:
- Soils that are similar to the Rembert soil but are subject to rare or occasional flooding

Land Use

Dominant uses: Woodland
Other uses: Some drained areas are used as pasture or cropland in drier years.

Cropland
Suitability: Unsuited
Commonly grown crops: None
Management concerns: Seasonal wetness, flooding, and ponding

Pasture and hayland
Suitability: Poorly suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: Seasonal wetness, flooding, and ponding
Management measures and considerations:
- Installing cross fencing to enable rotational grazing when the soil is wet minimizes compaction, increases productivity, and helps to maintain good tilth.

Woodland
Suitability: Suited
Productivity class: Moderately high for loblolly pine
Management concerns: Seedling mortality
Management measures and considerations:
- Mechanized management operations should be scheduled for late summer and early fall when the water table is lowest.
- Using low-pressure ground equipment minimizes rutting of the surface layer and compaction of the subsoil.
- If the soil is drained and planted, the seedlings should be planted on raised beds and the number of seedlings should be larger than the number typically planted on other soils.
- This map unit is best reforested by managing for natural regeneration of hardwoods.

Dwellings
Suitability: Unsuited
Management concerns: Wetness, flooding, and ponding

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness, flooding, and ponding

Local roads and streets
Suitability: Unsuited
Management concerns: Wetness, flooding, and ponding

Interpretive Groups

Land capability classification: 6w

TfA—Tifton loamy sand, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges
Size of areas: 10 to 300 acres

Composition

Tifton and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsurface layer:
8 to 10 inches—yellowish brown loamy sand

Subsoil:
10 to 22 inches—yellowish brown sandy clay loam
22 to 43 inches—brownish yellow sandy clay loam
43 to 51 inches—brownish yellow sandy clay loam that has brownish yellow and yellow mottles
51 to 65 inches—brownish yellow sandy clay loam that has yellow and light gray mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches

Drainage class: Well drained
Depth to seasonal high water table: 3 1/2 to 5 feet, January through March
Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid to moderately acid, except where lime has been applied
Other distinctive properties: 5 to 15 percent plinthite within a depth of 40 to 60 inches

Minor Components

Dissimilar soils:
- Fuquay soils, which are in the slightly lower positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Norfolk soils, which are in positions similar to those of the Tifton soil and contain less than 5 percent plinthite
- Orangeburg soils, which are in the slightly higher positions, have a subsoil that is redder in hue than the subsoil of the Tifton soil, and have less than 5 percent plinthite
- Dothan soils, which are in positions similar to those of the Tifton soil and have 5 percent or less ironstone nodules on the surface

Similar soils:
- Soils that are similar to the Tifton soil but have a surface layer of loamy fine sand or sandy loam

Land Use

Dominant uses: Cropland and pasture (fig. 6)
Other uses: Woodland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: None
Management measures and considerations:
- A conservation tillage system increases the content

Figure 6.—Tomatoes growing in an area of Tifton loamy sand, 0 to 2 percent slopes. The amount of vegetable crops produced in Grady County is increasing.

of organic matter and helps to conserve soil moisture.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: None

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine, longleaf pine, and slash pine
Management concerns: None
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited to dwellings without basements and moderately well suited to dwellings with basements
Management concerns: The seasonal high water table is a moderate concern affecting buildings with basements.
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from the wetness.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Seasonal high water table
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: None
Management measures and considerations:
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and prevents excessive erosion.

Interpretive Groups

Land capability classification: 1

TfB—Tifton loamy sand, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Side slopes and broad ridges
Size of areas: 10 to 300 acres

Composition

Tifton and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsurface layer:
8 to 10 inches—yellowish brown loamy sand

Subsoil:
10 to 22 inches—yellowish brown sandy clay loam
22 to 43 inches—brownish yellow sandy clay loam
43 to 51 inches—brownish yellow sandy clay loam that has brownish yellow and yellow mottles
51 to 65 inches—brownish yellow sandy clay loam that has yellow and light gray mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 3½ to 5 feet, January through March
Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid to moderately acid, except where lime has been applied
Other distinctive properties: 5 to 15 percent plinthite within a depth of 40 to 60 inches

Minor Components

Dissimilar soils:
- Dothan soils, which are in positions similar to those of the Tifton soil and have 5 percent or less ironstone nodules in the surface layer
- Fuquay soils, which are in the slightly lower positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness

- Norfolk soils, which are in positions similar to those of the Tifton soil and contain less than 5 percent plinthite
- Orangeburg soils, which are in the slightly higher positions, have a subsoil that is redder in hue than the subsoil of the Tifton soil, and have less than 5 percent plinthite

Similar soils:
- Soils that are similar to the Tifton soil but have a surface layer of loamy fine sand or sandy loam

Land Use

Dominant uses: Cropland and pasture
Other uses: Woodland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: None
Management measures and considerations:
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine, longleaf pine, and slash pine
Management concerns: None
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited to dwellings without basements and moderately well suited to dwellings with basements
Management concerns: The seasonal high water table is a moderate concern affecting buildings with basements.
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- The hazard of corrosion is moderate for steel and high for concrete.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Seasonal high water table
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and prevents excessive erosion.

Interpretive Groups

Land capability classification: 2e

TfC—Tifton loamy sand, 5 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and side slopes
Size of areas: 10 to 100 acres

Composition

Tifton and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsurface layer:
8 to 10 inches—yellowish brown loamy sand

Subsoil:
10 to 22 inches—yellowish brown sandy clay loam
22 to 43 inches—brownish yellow sandy clay loam
43 to 51 inches—brownish yellow sandy clay loam that has brownish yellow and yellow mottles

51 to 65 inches—brownish yellow sandy clay loam that has yellow and light gray mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 3 1/2 to 5 feet, January through March
Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid to moderately acid, except where lime has been applied
Other distinctive properties: 5 to 15 percent plinthite within a depth of 40 to 60 inches

Minor Components

Dissimilar soils:
- Fuquay soils, which are in the slightly lower positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Norfolk soils, which are in positions similar to those of the Tifton soil and contain less than 5 percent plinthite
- Orangeburg soils, which are in the slightly higher positions and have a subsoil that is redder in hue than the subsoil of the Tifton soil
- Dothan soils, which are in positions similar to those of the Tifton soil and have 5 percent or less ironstone nodules in the surface layer
- Cowarts soils, which are on steep slope breaks and have less than 5 percent plinthite

Similar soils:
- Soils that are similar to the Tifton soil but have a surface layer of loamy fine sand or sandy loam

Land Use

Dominant uses: Cropland and pasture
Other uses: Woodland

Cropland
Suitability: Suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: Erosion
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Conservation tillage, winter cover crops, crop residue management, and a crop rotation that includes grasses and legumes increase available water capacity, improve tilth, and improve soil fertility.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and ryegrass
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.

Woodland
Suitability: Well suited
Productivity class: Very high for longleaf pine and moderately high for slash pine and loblolly pine
Management concerns: None
Management measures and considerations:
- Establishing a permanent plant cover on roads and log landings, reforesting immediately after harvesting, and preparing sites with recommended species reduce the hazard of erosion and help to control siltation of streams.
- Restricting logging operations to periods when the soil is not saturated minimizes rutting and the damage to tree roots caused by soil compaction.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited to dwellings without basements and suited to dwellings with basements
Management concerns: Seasonal high water table
Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Seasonal high water table
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: 3e

TrB—Troup loamy sand, 0 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges
Size of areas: 5 to 325 acres

Composition

Troup and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 8 inches—brown loamy sand

Subsurface layer:
8 to 20 inches—yellowish brown loamy sand
20 to 32 inches—strong brown loamy sand
32 to 52 inches—yellowish red loamy sand

Subsoil:
52 to 80 inches—yellowish red sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Somewhat excessively drained
Depth to seasonal high water table: More than 6 feet
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Available water capacity: Low to moderate
Flooding: None
Content of organic matter in the surface layer: Very low or low
Natural fertility: Low
Tilth: Fair
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied
Other distinctive properties: Thick, sandy surface layer

Minor Components

Dissimilar soils:
- Lakeland soils, which are in positions similar to those of the Troup soil and are sandy to a depth of 80 inches or more
- Lucy soils, which are in the slightly lower positions and on the adjacent side slopes and that have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Orangeburg soils, which are in the slightly lower positions and have a sandy surface layer that is less than 20 inches thick

Similar soils:
- Soils that are similar to the Troup soil but have a subsoil that is more yellow than the subsoil of the Troup soil

Land Use

Dominant uses: Cropland and woodland
Other uses: Pasture and hayland

Cropland
Suitability: Moderately well suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, soybeans, and truck crops
Management concerns: Soil blowing, droughtiness, and nutrient leaching
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Using supplemental irrigation and planting crop varieties that are adapted to droughty conditions increase productivity.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Droughtiness, nutrient leaching, and low soil fertility
Management measures and considerations:
- Installing cross fencing to enable rotational grazing

helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Woodland
Suitability: Well suited
Productivity class: Moderately high for slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment use
Management measures and considerations:
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.

Dwellings
Suitability: Well suited
Management concerns: None

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Poor filtration
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None

Interpretive Groups

Land capability classification: 3s

TrD—Troup loamy sand, 5 to 12 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Side slopes
Size of areas: 5 to 90 acres

Composition

Troup and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 8 inches—brown loamy sand

Subsurface layer:
8 to 20 inches—yellowish brown loamy sand
20 to 32 inches—strong brown loamy sand
32 to 52 inches—yellowish red loamy sand

Subsoil:
52 to 80 inches—yellowish red sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Somewhat excessively drained
Depth to seasonal high water table: More than 6 feet
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Available water capacity: Low to moderate
Flooding: None
Content of organic matter in the surface layer: Very low or low
Natural fertility: Low
Tilth: Fair
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: Thick, sandy surface and subsurface layers

Minor Components

Dissimilar soils:
- Lakeland soils, which are in positions similar to those of the Troup soil and are sandy to a depth of 80 inches or more
- Lucy soils, which are in the slightly lower positions and on the adjacent side slopes and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Orangeburg soils, which are in the slightly lower positions and have a sandy surface layer that is less than 20 inches thick

Similar soils:
- Soils that are similar to the Troup soil but have a subsoil that is more yellow than the subsoil of the Troup soil

Land Use

Dominant uses: Woodland
Other uses: Cropland, pasture, and hayland

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Soil blowing, erosion, equipment use, droughtiness, and nutrient leaching
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue

management reduce the hazard of erosion, reduce the hazard of soil blowing, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Equipment use, droughtiness, and nutrient leaching
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Using equipment that has low-pressure tires reduces the slippage and rutting caused by the high content of sand in the soil.
- Installing cross fencing to enable rotational grazing helps to keep the soil in good condition, especially during drier periods.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Woodland
Suitability: Well suited
Productivity class: High for slash pine and loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Using tracked or low-pressure ground equipment minimizes rutting and the damage caused to roots by compaction during harvesting.
- Establishing a permanent plant cover on roads and landings after the completion of logging reduces the hazard of erosion and helps to control the siltation of streams.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Moderately well suited
Management concerns: Slope
Management measures and considerations:
- Cutting and filling or building in the less slopping areas helps to overcome the slope limitation.

Septic tank absorption fields
Suitability: Moderately well suited
Management concerns: Poor filtration; slope
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Moderately well suited
Management concerns: Slope
Management measures and considerations:
- Cutting and filling and building roads on the contour help to overcome the slope limitation.

Interpretive Groups

Land capability classification: 6s

Ud—Udorthents, loamy

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and side slopes
Size of areas: 10 to 30 acres

Composition

This map unit is a miscellaneous land type consisting of areas on uplands that were formed by cutting, filling, leveling, and removing soil material. Cuts range from 3 to more than 5 feet in depth, are typically square or rectangular in shape, and range from 5 to 30 acres in size. This map unit occurs throughout the survey area, usually along roadsides and in urban areas.

Soil Properties and Qualities

Due to the diversity of the Udorthents, onsite investigation is needed.

Minor Components

- Some areas contain minor inclusions of the original soil material.

Land Use

Dominant uses: Idle land
Other uses: Woodland

Cropland
- This map unit is severely limited for use as cropland. A site with better suited soils should be selected.

Pasture and hayland
- This map unit is severely limited for use as pasture and hayland. A site with better suited soils should be selected.

Woodland
Suitability: Poorly suited
Management concerns: Limited size of areas, low fertility, and doughtiness
Management measures and considerations:
- Although timber production is rarely feasible in areas of this map unit because of the limited size of the areas and the high degree of soil disturbance, trees can be planted for aesthetic benefits.

Dwellings
Suitability: No suitability class assigned
Management concerns: The extensive disturbance makes many areas of this unit unsuitable for dwellings.
Management measures and considerations:
- Onsite investigation is needed prior to construction.

Septic tank absorption fields
Suitability: No suitability class assigned
Management concerns: The extensive disturbance makes many areas of this unit unsuitable for septic tank absorption fields.
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: No suitability class assigned
Management concerns: The extensive disturbance makes many areas of this unit unsuitable for local roads and streets.
Management measures and considerations:
- Onsite investigation is needed prior to construction.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: None assigned

Up—Udorthents-Pits complex

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and side slopes
Size of areas: 10 to 20 acres

Composition

This map unit is a miscellaneous land type consisting of pits and areas of soils that have been highly disturbed by mechanical means. It commonly includes areas of open water. Areas of this map unit are mined for clay minerals and stone. These areas have had soil overburden removed and piled to the side. Typically, these areas are 10 to 75 feet in depth, irregular in shape, and 10 to 100 acres in size. Most areas are idle and in various stages of reclamation.

Soil Properties and Qualities

Due to the diversity of this map unit, onsite investigation is needed.

Minor Components

- Some areas contain minor inclusions of the original soil material.

Land Use

Dominant uses: Idle land and planted pine
Other uses: Recreational development

Cropland
- This map unit is severely limited for use as cropland. A site with better suited soils should be selected.

Pasture and hayland
- This map unit is severely limited for use as pasture and hayland. A site with better suited soils should be selected.

Woodland
Suitability: Poorly suited
Productivity class: None assigned
Management concerns: Limited size of areas, low fertility, and doughtiness
Management measures and considerations:
- Although timber production is rarely feasible in areas of this map unit because of the limited size of the areas and the high degree of soil disturbance, trees can be planted for aesthetic benefits.

Dwellings
Suitability: No suitability class assigned
Management concerns: The extensive disturbance makes many areas of this unit unsuitable for dwellings.
Management measures and considerations:
- Onsite investigation is needed prior to construction.

Septic tank absorption fields
Suitability: No suitability class assigned
Management concerns: The extensive disturbance makes many areas of this unit unsuitable for septic tank absorption fields.
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: No suitability class assigned
Management concerns: The extensive disturbance makes many areas of this unit unsuitable for local roads and streets.
Management measures and considerations:
- Onsite investigation is needed prior to construction.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: None assigned

UtC—Urban land-Tifton complex, 0 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and side slopes
Size of areas: 10 to 200 acres

Composition

Urban land and similar areas: 45 percent
Tifton and similar soils: 35 percent
Dissimilar soils: 20 percent

The Urban land is a miscellaneous land type consisting of areas covered by streets, buildings, sidewalks, parking lots, and playgrounds.

Typical Profile

Tifton
Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsurface layer:
8 to 10 inches—yellowish brown loamy sand

Subsoil:
10 to 22 inches—yellowish brown sandy clay loam
22 to 43 inches—brownish yellow sandy clay loam
43 to 51 inches—brownish yellow sandy clay loam that has brownish yellow and yellow mottles
51 to 65 inches—brownish yellow sandy clay loam that has yellow and light gray mottles

Soil Properties and Qualities

Urban land
Because of the diversity of the Urban land, onsite investigation is needed.

Tifton
Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: 3 1/2 to 6 feet, January through March
Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Other distinctive properties: 5 to 15 percent plinthite within a depth of 40 to 60 inches

Minor Components

Dissimilar soils:
- Fuquay soils, which are in the slightly lower positions and have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Norfolk soils, which are in positions similar to those of the Tifton soil and have less than 5 percent plinthite
- Orangeburg soils, which are in the slightly higher positions, have a subsoil that is redder in hue than the subsoil of the Tifton soil, and have less than 5 percent plinthite
- Dothan soils, which are in positions similar to those of the Tifton soil and have 5 percent or less ironstone nodules in the surface layer
- Areas of soils that are so highly disturbed by mechanical means that the soil series can no longer be identified

Similar soils:
- Areas of soils that are similar to the Tifton soil but have a surface layer of loamy fine sand or sandy loam
- Areas of Tifton soils where the surface layer has been slightly disturbed by mechanical means

Land Use

Dominant uses: Urban and residential development

Dwellings
in areas of the Tifton soil
Suitability: Well suited to dwellings without basements and moderately well suited to dwellings with basements
Management concerns: The seasonal high water table is a concern affecting buildings with basements.

Management measures and considerations:
- Building on the highest part of the landscape and installing a subsurface drainage system, where slope permits, help to overcome the wetness.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.

Septic tank absorption fields in areas of the Tifton soil
Suitability: Moderately well suited
Management concerns: Seasonal high water table
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets in areas of the Tifton soil
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and sediment catch basins, help to keep soil on the site. These practices should be used during any development.

Interpretive Groups

Land capability classification: Urban land—none assigned; Tifton—2e

WaB—Wagram loamy sand, 0 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges; adjacent side slopes
Size of areas: 5 to 30 acres

Composition

Wagram and similar soils: 70 percent
Dissimilar soils: 30 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown loamy sand

Subsurface layer:
6 to 28 inches—light yellowish brown loamy sand

Subsoil:
28 to 34 inches—brownish yellow sandy loam
34 to 46 inches—yellowish brown sandy clay loam
46 to 80 inches—yellowish brown sandy clay loam that has strong brown mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Permeability: Rapid in the surface and subsurface layers, moderate in the subsoil
Available water capacity: Moderate
Flooding: None
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied
Other distinctive properties: None

Minor Components

Dissimilar soils:
- Blanton soils, which are in the slightly higher positions and have a sandy surface layer that ranges from 40 to 60 inches in thickness
- Fuquay soils, which are in positions similar to those of the Wagram soil and have more than 5 percent plinthite within a depth of 60 inches
- Dothan soils, which have a surface layer that is less than 20 inches thick
- Bonneau soils, which are in the slightly lower positions and have a perched water table within a depth of 60 inches

Similar soils:
- Soils that are similar to the Wagram soil but have subsurface layers of sandy loam within a depth of 30 inches

Land Use

Dominant uses: Cropland and pasture
Other uses: Woodland

Cropland
Suitability: Moderately well suited
Commonly grown crops: Cotton, peanuts, corn, soybeans, small grains, and truck crops
Management concerns: Low available water capacity; low nutrient holding capacity in the surface layer
Management measures and considerations:
- Leaving the maximum amount of crop residue on

the surface helps to control soil blowing and conserves soil moisture and plant nutrients.
- Stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall into the soil.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, common bermudagrass, bahiagrass, and ryegrass
Management concerns: Low available water capacity
Management measures and considerations:
- Fencing livestock away from creeks and streams minimizes erosion of streambanks and sedimentation of the creeks and streams.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Using split applications of fertilizer and herbicides minimizes leaching and increases yields.

Woodland
Suitability: Moderately well suited
Productivity class: Moderately high for loblolly pine, longleaf pine, and slash pine
Management concerns: Equipment use
Management measures and considerations:
- Planting and harvesting should be scheduled for periods when the soil has the proper moisture content.
- Drought-hardy species should be planted.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Well suited
Management concerns: None

Septic tank absorption fields
Suitability: Well suited
Management concerns: None
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None

Interpretive Groups

Land capability classification: 2s

WhA—Wahee fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape: Coastal Plain
Landform: Stream terraces
Landform position: Shallow depressions
Size of areas: 5 to 50 acres

Composition

Wahee and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown sandy loam

Subsoil:
6 to 10 inches—light yellowish brown sandy clay loam
10 to 18 inches—pale brown sandy clay that has light gray mottles
18 to 22 inches—pale brown sandy clay that has red and light gray mottles
22 to 28 inches—light gray clay that has red and yellow mottles
28 to 45 inches—light gray sandy clay that has light brown and yellow mottles
45 to 55 inches—light gray sandy clay that has light brown and yellow mottles
55 to 65 inches—light gray sandy clay loam that has light brown mottles

Soil Properties and Qualities

Depth class: Very deep
Depth to root-restricting layer: More than 60 inches, but root growth may be limited by a seasonal high water table
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: 1/2 to 1 1/2 feet, apparent, December through April
Permeability: Slow
Available water capacity: Moderate
Flooding: Occasional, brief, December through April
Content of organic matter in the surface layer: Low or moderately low
Natural fertility: Low
Tilth: Good
Reaction: Very strongly acid to moderately acid in the surface layer, except where lime has been applied, and extremely acid to strongly acid throughout the rest of the profile

Minor Components

Dissimilar soils:
- Well drained Norfolk and Orangeburg soils in the higher, more convex positions
- Moderately well drained Goldsboro and somewhat poorly drained Lynchburg soils in the slightly higher positions
- Poorly drained Pelham and Grady soils in the lower, depressional areas

Similar soils:
- Scattered areas of soils that are similar to the Wahee soil, are adjacent to depressions, and are moderately well drained
- Scattered areas of soils that are similar to the Wahee soil but have a surface layer of loamy fine sand
- Well drained soils consisting of stratified sandy and loamy alluvium along drainageways that are occasionally flooded for brief periods

Land Use

Dominant uses: Woodland and cropland
Other uses: Pasture and hayland

Cropland
Suitability: Moderately well Suited
Commonly grown crops: Corn, small grains, cotton, peanuts, grain sorghum, and soybeans
Management concerns: Seasonal wetness; flooding
Management measures and considerations:
- Managing this soil as cropland is difficult because of the hazard of flooding during the growing season.
- Diverting water with open ditches and diversions increases productivity.
- Restricting tillage when the soil is wet helps to prevent clodding and crusting.
- Conservation tillage, winter cover crops, crop residue management, and a crop rotation that includes grasses and legumes increase available water capacity, improve tilth, and improve soil fertility.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, common bermudagrass, legumes, and ryegrass
Management concerns: Flooding and seasonal wetness
Management measures and considerations:
- Harvesting hay as soon as possible reduces the risk of damage from the flooding.
- Using rotational grazing and implementing a well-planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: High for slash pine and moderately high for loblolly pine
Management concerns: Equipment use and seedling mortality
Management measures and considerations:
- Restricting logging to periods when the soil is not saturated minimizes rutting of the surface layer and compaction of the subsoil.
- Planting in raised beds and increasing the number of seedlings planted help to overcome the seedling mortality rate.
- Leaving a buffer zone of trees and shrubs along creeks and streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Dwellings
Suitability: Unsuited
Management concerns: Flooding and wetness

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Flooding, wetness, and the clayey subsoil

Local roads and streets
Suitability: Unsuited
Management concerns: Flooding and low bearing strength

Interpretive Groups

Land capability classification: 2w

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

James E. Dean, conservation agronomist, Natural Resources Conservation Service, and Ramiro Cordero, district conservationist, Natural Resources Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of

the Natural Resources Conservation Service or the Cooperative Extension Service.

The major management concerns in the use of the soils for crops and pasture are described in this section. The crops and pasture plants best suited to the soil are identified; the system of land capability classification used by the Natural Resources Conservation Service is explained; and the predicted yields of the main crops and hay and pasture plants are given for each soil.

This section provides information about the overall agricultural potential of the survey area and about the management practices that are needed. The information is useful to land users, equipment dealers, land improvement contractors, fertilizer companies, planners, conservationists, and others. For each kind of soil, information about management is presented in the section "Detailed Soil Map Units".

Erosion is a hazard in most areas of cropland. It is a more severe hazard where the slope is more than 3 percent.

Erosion can reduce productivity and can result in the pollution of streams and wetlands. Productivity is reduced as the surface layer erodes and more of the subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils that have a shallow surface layer, a clayey subsoil, or both. Examples include Carnegie, Cowarts, and Nankin soils, which have a shallow surface layer, and Faceville soils, which have a clayey subsoil. In eroded areas of these soils, tilling or preparing a good seedbed is difficult on the clayey spots where the original, friable surface soil has eroded away. Controlling erosion minimizes the pollution of streams by sediment and improves the quality of surface water for use by livestock, fish, and wildlife and for recreational uses.

Erosion-control practices provide a protective plant cover, increase the rate of water infiltration, and help to control runoff (fig. 7). A cropping system that keeps plant cover and crop residue on the surface for extended periods can hold soil losses to amounts that do not reduce the productive capacity of the soils. Including grasses and legumes in the cropping system helps to control erosion in sloping areas and improves tilth for the crops that follow in the rotation. The legumes also increase nitrogen levels in the soils.

Terraces and diversions reduce the length of a slope, help to control runoff, and reduce the hazard of erosion. They are most practical on deep, well drained soils that have a uniform slope. Carnegie, Dothan, Orangeburg, and Tifton soils are suitable for terraces. Grassed waterways and underground outlets provide suitable outlets for terraces and diversions. Some slopes are so short and irregular that terraces are not practical. In these areas, a cropping system that provides a substantial cover of plant residue is needed to reduce the hazard of erosion.

Residue management, conservation tillage, cover crops, strip-cropping, and a rotation that includes grasses and legumes provide ground cover, increase the rate of water infiltration, help to control runoff, and reduce the hazard of erosion. These conservation practices can be adapted to most of the soils in the county. No-till and strip-till, which are forms of residue management, are becoming more common in the county.

Most of the soils that are used as cropland are subject to increased erosion if they are plowed in the fall and left bare until spring. Winter cover crops should be planted if cropland is plowed in the fall.

Soil blowing is a management concern on soils that have a sandy surface layer. Examples include Dothan, Fuquay, Lakeland, Lucy, and Tifton soils. Damage occurs to young seedlings on these soils if winds are strong and the soils are dry and do not have a cover of vegetation or crop residue. Maintaining crop residue on the surface, planting cover crops, using a conservation tillage system, and keeping the surface rough minimize soil blowing.

Bottomland soils in the survey area include Grady, Rembert, and Ocilla soils. The production of crops and pasture plants is generally not possible on these soils without artificial drainage. Existing drainage systems need continuing maintenance in areas of these soils. Bottomland soils are also subject to flooding.

Information regarding erosion-control practices and drainage practices is available at the local offices of the Natural Resources Conservation Service.
Wetlands are important natural resources that provide water-recharge areas, improve water quality, and support habitat for many species of game and non-game wildlife. Drainage is a major consideration in the management of crops and pasture. Because of Federal, State, and local regulations, the installation of drainage practices and the maintenance of existing drainage systems may require special permits and extra planning where wetlands are influenced.

Natural fertility is low in most of the upland soils in the survey area. Most of the soils in the survey area are naturally acid. Soils on flood plains, such as Osier, Bibb, and Pelham soils, range from slightly acid to strongly acid. Many of the upland soils are strongly acid or very strongly acid in their natural state. Applications of agricultural limestone are needed to neutralize acidity in most of these soils. Applications of lime, fertilizer, and organic wastes should be based on the results of soil testing, waste analysis, a

Figure 7.—A grassed waterway that helps to control erosion in an area of Orangeburg loamy sand, 2 to 5 percent slopes.

realistic projection of crop yields, and a nutrient management plan.

Nutrient management plans provide recommendations that are beneficial to the crop, profitable to the grower, and compatible with the environment. The Natural Resources Conservation Service and the Cooperative Extension Service can provide information concerning nutrient management plans.

The content of organic matter in a soil is an important factor affecting water infiltration, erosion, crusting, fertility, germination of seeds, and root growth. An adequate amount of organic matter at the surface enables the soil to absorb and hold more water, be less subject to soil erosion, and be more productive.

Most of the soils that are used for crops in the survey area have a surface layer of loamy sand and a low content of organic matter. Generally, the structure of these soils is poor and a crust forms on the surface following rainfall. This crust is hard when dry, reduces the rate of water infiltration, hinders plant growth, and increases the runoff rate. Long-term use of residue management, conservation tillage, strip-cropping, a rotation that includes grasses and legumes, and regular additions of manure and other organic material improve soil structure and minimize crusting.

The commonly grown crops in the survey area are corn, cotton, grain sorghum, peanuts, rye, soybeans, tobacco, vegetables, and wheat. Other field crops that are suited to the soils and climate of the survey area are not commonly grown.

The specialty crops grown in the survey area are sweet corn, field peas, watermelons, cantaloupes, small fruits, and nursery plants. Watermelons comprise the greatest acreage of specialty crops.

Deep soils that have good natural drainage and that warm up early in the spring are especially well

suited to many vegetables and small fruits. Where the slope is less than 6 percent, Cowarts, Dothan, Faceville, Fuquay, Orangeburg, and Tifton soils are well suited to such crops.

Most of the well drained soils in the survey area are suitable for orchards and nursery plants. However, soils in low positions, where frost is frequent and air movement is low, generally are poorly suited to early vegetables, small fruits, orchards, and nursery plants.

If adequately managed and protected from flooding, many of the soils on flood plains are suitable for a wide range of vegetable crops.

Technical assistance and information about specialty crops are available from the Cooperative Extension Service and other agricultural agencies.

Irrigation is becoming used more widely in the county for the production of row crops, orchard crops, and specialty crops. The major sources of water for irrigation are subsurface water from deep wells and surface water from streams and ponds.

Urban development and other land uses compete with agriculture for land in the county. Each year, additional land that is well suited to crops is developed for urban uses. Prime farmland makes up about 153,000 acres in Grady County. Prime farmland is the best land available for producing food, feed, forage, fiber, and oilseed crops.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit. Only capability class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w,* or *s,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); and *s* shows that the soil is limited mainly because it is shallow, droughty, or stony.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w* or *s* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in the yields table.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 6. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of

ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 1998) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 1998).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The following map units meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1998).

GrA Grady sandy loam, ponded
OSA Osier and Bibb soils, frequently flooded
PeA Pelham loamy fine sand, frequently flooded
ReA Rembert sandy loam, frequently flooded

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

BgB Bigbee loamy fine sand, 0 to 5 percent slopes, rarely flooded
LnA Lynchburg fine sandy loam, 0 to 2 percent slopes
OcA Ocilla loamy fine sand, 0 to 2 percent slopes

Table 7 provides more information regarding which components and inclusions of the map unit meet the definition of hydric soils and also have at least one of the hydric soil indicators. This list can help in the planning of land uses, but onsite investigation is needed to determine if hydric soils occur at a specific site.

Forestland Productivity and Management

By Josh A. Wheat, resource conservationist, Natural Resources Conservation Service

Of a total of more than 293,000 acres in Grady County, 166,700 acres, or almost 57 percent, is forestland. About 154,000 acres, or 92 percent of the forestland, is privately owned. The remainder is owned by the forest industry and local governments.

Among the most significant forest types in Grady County are mixed oak-hickory and oak-pine (78,900 acres), oak-gum-cypress (29,500 acres), longleaf-slash pine (16,500 acres), and loblolly-shortleaf pine (41,000 acres).

Virgin forest once covered most of the county. As settlement progressed in the area, the well drained soils on uplands were cleared for cultivation. The soils in the remaining forestland consist of moderately well drained to poorly drained soils along streams and wetlands, on flood plains, in depressions, and on

broad, low-lying uplands and deep, excessively drained soils on ridges, uplands, and stream terraces. The trend during the past several years has been away from cultivation and toward reforestation. The amount of forest increased by over 20,000 acres from 1989 to 1997. Most of the increase was areas of loblolly pine and slash pine (USDA, 1999).

Over 65 percent of the forestland in Grady County is fully stocked or medium stocked. The remainder is poorly stocked. Only about 40 percent of the forestland is considered moderately productive, which means capable of producing, using average management, about 1 to 1.5 cords per acre per year. One cord of standing timber equals approximately 70 to 90 cubic feet of wood. Much of the remaining 60 percent normally produces less than 1 cord per acre. Much of the existing forestland could be improved by thinning out mature trees and undesirable species. Stands could also be improved by restricting excessive grazing and controlling fire, disease, and insects. The Natural Resources Conservation Service, the Georgia Forestry Commission, and the Cooperative Extension Service can help determine specific management needs.

Site index is a measure of quality based on the height (in feet) of the dominant trees at a specified age (usually 50 years for natural stands and 25 years for planted pine stands). The site indexes in the following paragraphs are based on a 50-year period. For loblolly pine and slash pine, the site index for a 25-year period can be calculated by multiplying the 50-year site index by 0.64.

A wide variety of soils are used as forestland in the county. Poorly drained to somewhat poorly drained soils, such as Bibb, Grady, Ocilla, Pelham, and Wahee soils, have high potential productivity for timber, primarily pine. These soils are best suited to slash pine, loblolly pine, water tupelo, American sycamore, sweetgum, and water oak. The site index ranges from 65 to 90 for the hardwood species and 85 to 100 for the pine. These soils have moderate to severe equipment limitations due to flooding or wetness. Seedling mortality may be excessive in wet years.

Well drained soils on uplands have high potential productivity and are best suited to longleaf pine, slash pine, and loblolly pine. Cowarts, Dothan, Faceville, Orangeburg, and Tifton soils are examples. The site index for pine ranges from 67 to 86. No significant management concerns are associated with these soils.

Somewhat excessively drained soils, such as Troup, Lakeland, and Bigbee soils, also have relatively high potential productivity for pine. The site index ranges from 60 to 88. These soils, however, have moderate equipment limitations due to coarse texture. Also, seedling mortality is a moderate concern because of doughtiness.

The tables in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

Forest Productivity

In table 8, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Rating class terms for seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Forest Management

In tables 9a and 9b, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet (http://soils.usda.gov/technical/).

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Recreation

The soils of the survey area are rated in table 10 according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive

soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in table 10 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 11, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of

fair indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian olive, autumn olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are loblolly pine, slash pine, longleaf pine, eastern redcedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, slope, and surface stoniness. Examples of wetland plants are smartweed, cattails, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land

use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 12 shows the degree and kind of soil limitations that affect dwellings with and without basements, local roads and streets, and shallow excavations.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the

ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Sanitary Facilities

Table 13 shows the degree and kind of soil limitations that affect septic tank absorption fields and sewage lagoons. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if the water table is high enough to raise the level of

sewage in the lagoon or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over a cemented pan to make land smoothing practical.

Construction Materials

Table 14 gives information about the soils as potential sources of sand, topsoil, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand is a natural aggregate suitable for commercial use with a minimum of processing. It is used in many kinds of construction. Specifications for each use vary widely. In table 14, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand, the soil is considered a likely source regardless of thickness. The assumption is that the sand layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good, fair,* or *poor* as potential sources of topsoil and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil or roadfill. The lower the number, the greater the limitation.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Water Management

Table 15 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas and for embankments, dikes, and levees. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the

specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones. A high water table affects the amount of usable material. It also affects trafficability.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 16 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits)

indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Water Features

Table 17 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 17 indicates, by month, depth to the top *(upper limit)* and base *(lower limit)* of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 17 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay

deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Physical and Chemical Properties

Table 18 shows estimates of some physical and chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 18, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil

amendments for fertility and stabilization, and in determining the risk of corrosion.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 18, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 18 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 19 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Ultisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udult (*Ud*, meaning humid, plus *ult*, from Ultisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Kandiudults (*Kandi*, meaning low activity, plus *udult*, the suborder of the Ultisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Kandiudults.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, kaolinitic, thermic Typic Kandiudults.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example is the Orangeburg series.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 1998). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Bibb Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Stratified loamy and sandy alluvium
Depth to the seasonal high water table: 1/2 to 1 foot
Landscape: Coastal Plain

Landform: Flood plains
Landform position: Drainageways
Slope: 0 to 2 percent
Taxonomic class: Coarse-loamy, siliceous, active, acid, thermic Typic Fluvaquents

Commonly Associated Soils

- Bigbee soils, which are excessively drained and are in the higher adjacent positions
- Ocilla soils, which are somewhat poorly drained, are fine-loamy, and are at the head of streams and low flats
- Osier soils, which are sandier than the Bibb soils
- Pelham soils, which are at the head of streams and low flats and have sandy surface and subsurface layers with a combined thickness of 20 to 40 inches

Typical Pedon

Bibb loamy fine sand in an area of Osier and Bibb soils, frequently flooded; from the intersection of Hadley Ferry Road and Turkey Creek, 450 feet north of the creek and 200 feet east of Hadley Ferry Road; Grady County; USGS Cairo South topographic quadrangle (1974); lat. 30 degrees 45 minutes 56 seconds N. and long. 84 degrees 13 minutes 37 seconds W.

A—0 to 5 inches; dark gray (10YR 4/1) loamy fine sand; about 35 percent clean sand grains; weak fine granular structure; very friable; many fine and few medium and coarse roots; very strongly acid; clear smooth boundary.

Cg1—5 to 10 inches; dark gray (10YR 4/1) fine sandy loam; massive; very friable; few fine and medium roots; common medium prominent brownish yellow (10YR 6/8) and common medium prominent yellowish red (5YR 4/6) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; clear smooth boundary.

Cg2—10 to 45 inches; very dark gray (10YR 3/1) fine sandy loam; massive; very friable; few fine prominent red (2.5YR 4/6) irregularly shaped masses of iron accumulation with clear boundaries throughout; very strongly acid; clear smooth boundary.

Cg3—45 to 65 inches; light gray (10YR 7/1) sand; massive; very friable; common medium prominent yellow (10YR 7/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid.

Range in Characteristics

Thickness of the sandy epipedon: 80 inches or more
Depth to chroma of 2 or less: Reduced matrix at a depth of 5 to more than 60 inches
Reaction: Very strongly acid or strongly acid throughout

A or Ap horizon:
Hue—7.5YR or 10YR
Thickness—2 to 6 inches
Value—2 to 5
Chroma—1 to 3
Texture—loamy fine sand, sandy loam, or fine sandy loam

Cg horizon:
Hue—10YR or 2.5Y
Value—3 to 7
Chroma—2 or less
Redoximorphic features—reduced matrix and few or common iron accumulations in shades of red, brown, or yellow
Texture—sandy loam or fine sandy loam; the lower part of the horizon may contain loamy fine sand or sand; thin strata of finer or coarser material are common.

Bigbee Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Parent material: Sandy fluvial sediments
Depth to the seasonal high water table: 3½ to 6 feet, January through March
Landscape: Coastal Plain
Landform: Low stream terraces
Landform position: Knolls and natural levees
Slope: 0 to 5 percent
Taxonomic class: Thermic, coated Typic Quartzipsamments

Commonly Associated Soils

- Poorly drained Bibb and Osier soils on flood plains
- Hornsville soils, which are moderately well drained, are on broad stream terraces, and have a clayey subsoil
- Lakeland soils, which are in the adjacent upland positions and do not have a water table within a depth of 80 inches

Typical Pedon

Bigbee loamy fine sand, 0 to 5 percent slope, rarely flooded; in Cheney Griffin Park; 0.1 mile west on a dirt road from a train track, 110 feet south on dirt trail, and 50 feet west of the trail; Decatur County; USGS Bainbridge topographic quadrangle (1974); lat. 30 degrees 54 minutes 15 seconds N. and long. 84 degrees 35 minutes 08 seconds W.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) loamy fine sand; single grained; loose; many very fine and fine and common medium roots; very strongly acid; clear wavy boundary.
C1—5 to 28 inches; yellowish brown (10YR 5/4) fine sand; single grained; loose; many very fine and fine roots; strongly acid; gradual wavy boundary.
C2—28 to 48 inches; very pale brown (10YR 7/4) fine sand; single grained; loose; strongly acid; gradual wavy boundary.
C3—48 to 62 inches; brownish yellow (10YR 6/6) fine sand with common bodies of loamy sand; single grained; loose; common medium distinct very pale brown (10YR 7/4) and strong brown (7.5YR 5/6) irregularly shaped masses of iron accumulation with diffuse boundaries; strongly acid.

Range in Characteristics

Thickness of the sandy epipedon: 60 to more than 80 inches
Content of pebbles: Less than 5 percent
Depth to chroma of 2 or less: 40 inches
Reaction: Very strongly acid to moderately acid throughout, except where lime has been applied

A or Ap horizon:
Thickness—4 to 8 inches
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—loamy fine sand or loamy sand

C horizon, upper part:
Hue—7.5YR or 10YR
Value—4 to 7
Chroma—4 or 5
Redoximorphic features—none to common in shades of brown
Texture—sand or fine sand

C horizon, lower part:
Hue—10YR
Value—6 to 8
Chroma—3 to 6
Redoximorphic features—none to common in shades of brown, yellow, or, below a depth of 40 inches, gray
Texture—sand or fine sand

Blanton Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Rapid in the A and E horizons and moderate or moderately slow in the Bt horizon
Parent material: Sandy and loamy marine sediments (fig. 8)
Depth to the seasonal high water table: 4 to 6 feet
Landscape: Coastal Plain
Landform: Uplands and high stream terraces
Landform position: Ridgetops and side slopes
Slope: 1 to 12 percent
Taxonomic class: Loamy, siliceous, semiactive, thermic Grossarenic Paleudults

Commonly Associated Soils

- Bonneau, Fuquay, and Lucy soils, which have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Lakeland soils, which are excessively drained, do not have a water table within a depth of 6 feet, and are sandy to a depth of more than 80 inches
- Pelham soils, which are poorly drained and have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Troup soils, which are somewhat excessively drained, are redder than the Blanton soils, and do not have a water table within a depth of 6 feet
- Wahee soils, which are somewhat poorly drained, have a clayey subsoil, and are in slight depressions

Typical Pedon

Blanton loamy sand, 0 to 5 percent slopes; 0.9 mile west on Cook-Womack Road from its intersection with Georgia Highway 27 in Eldorendo, 75 feet north of the road; Decatur County; USGS Boykin topographic quadrangle (1974); lat. 31 degrees 02 minutes 40 seconds N. and long. 84 degrees 40 minutes 01 second W.

Ap—0 to 10 inches; dark brown (10YR 4/3) loamy sand; weak fine granular structure; very friable; common very fine and fine roots; strongly acid; clear smooth boundary.
E1—10 to 16 inches; yellowish brown (10YR 5/4) loamy sand; single grained; loose; few very fine roots; many pockets of uncoated sand grains; strongly acid; gradual wavy boundary.
E2—16 to 42 inches; brownish yellow (10YR 6/6) loamy sand; single grained; loose; very friable; few very fine roots; many uncoated sand grains; strongly acid; clear smooth boundary.
E3—42 to 61 inches; very pale brown (10YR 7/4) loamy sand; weak fine granular structure; very friable; many uncoated sand grains; strongly acid; clear smooth boundary.
BE—61 to 68 inches; light yellowish brown (10YR 6/4) loamy sand; weak fine subangular blocky structure; very friable; few uncoated sand grains; strongly acid; clear wavy boundary.

Bt1—68 to 72 inches; brownish yellow (10YR 6/6) sandy loam; weak fine subangular blocky structure; very friable; some sand grains bridged and coated with clay; strongly acid; clear wavy boundary.
Bt2—72 to 80 inches; brownish yellow (10YR 6/6) sandy clay loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; common medium prominent yellowish red (5YR 5/8) masses of iron accumulation with diffuse boundaries; few medium prominent light gray (10YR 7/1) iron depletions with diffuse boundaries; strongly acid.

Range in Characteristics

Thickness of the solum: 60 to more than 80 inches
Thickness of the sandy epipedon: 40 to 80 inches
Content of rock gravel: Less than 5 percent
Concentrations: Few nodular concentrations of plinthite
Depth to chroma of 2 or less: 46 to 71 inches
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

Ap horizon:
Hue—10YR
Value—3 to 5
Chroma—2 or 3
Texture—loamy sand

E horizon:
Hue—7.5YR or 10YR
Value—5 to 7
Chroma—3 to 8
Texture—sand or loamy sand

BE horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—3 to 8
Texture—loamy sand, loamy fine sand, or sandy loam

Bt horizon:
Hue—7.5YR or 10YR; or variegated in shades of red, brown, yellow, or gray
Value—5 to 7
Chroma—3 to 8
Redoximorphic features—common in shades of red, brown, yellow, or gray
Texture—sandy loam or sandy clay loam

Bonneau Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Rapid in the A and E horizons and moderate in the Bt horizon
Parent material: Loamy marine sediments
Depth to the seasonal high water table: 3$^1/_2$ to 5 feet, January through March
Landscape: Coastal Plain
Landform: Low-lying ridges
Landform position: Ridges and side slopes
Slope: 0 to 12 percent
Taxonomic class: Loamy, siliceous, subactive, thermic Arenic Paleudults

Commonly Associated Soils

- Blanton soils, which are in the higher positions and have a sandy epipedon that ranges from 40 to 65 inches in thickness
- Fuquay soils, which have more than 5 percent plinthite
- Goldsboro soils, which are moderately well drained, are in the lower positions, and have a sandy epipedon that is less than 20 inches thick
- Gritney soils, which are moderately well drained, are clayey, and have a sandy epipedon that is less than 20 inches thick
- Lucy soils, which are redder than the Bonneau soils, are in the higher positions, and have a water table that is at a depth of more than 60 inches
- Norfolk soils, which are in the lower positions and have a sandy epipedon that is less than 20 inches thick
- Pelham soils, which are poorly drained and are in the lower positions
- Wagram soils, which are in positions similar to those of the Bonneau soils and do not have redoximorphic features

Typical Pedon

Bonneau loamy sand, 0 to 5 percent slopes; 0.8 mile south on Vada Road from Mount Pleasant Church, 0.9 mile west on a dirt road (Swindell Rd.), and 25 feet south of the road; Decatur County; USGS Vada topographic quadrangle (1971); lat. 31 degrees 03 minutes 19 seconds N. and long. 84 degrees 26 minutes 43 seconds W.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; common fine and very fine roots; slightly acid; clear smooth boundary.
E1—10 to 21 inches; yellowish brown (10YR 5/6) loamy sand; single grained; loose; few very fine and fine roots; strongly acid; clear smooth boundary.
E2—21 to 31 inches; brownish yellow (10YR 6/6) loamy sand; single grained; loose; few very fine

and fine roots; strongly acid; gradual smooth boundary.
Bt1—31 to 39 inches; brownish yellow (10YR 6/6) sandy loam; weak medium subangular blocky structure; friable; few fine prominent reddish yellow (7.5YR 6/8) irregularly shaped masses of iron accumulation with diffuse boundaries; strongly acid; clear wavy boundary.
Bt2—39 to 49 inches; brownish yellow (10YR 6/6) sandy clay loam; weak medium subangular blocky structure; very friable; few faint clay films on faces of peds; few fine prominent reddish yellow (7.5YR 6/8) irregularly shaped masses of iron accumulation with diffuse boundaries; very strongly acid; gradual wavy boundary.
Bt3—49 to 55 inches; 35 percent brownish yellow (10YR 6/8), 35 percent very pale brown (10YR 7/4), and 30 percent red (2.5YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; common distinct clay films on faces of peds; the red and brownish yellow areas are iron accumulations; very strongly acid; clear wavy boundary.
Bt4—55 to 72 inches; about 40 percent light red (2.5YR 6/6), 35 percent brownish yellow (10YR 6/8), and 25 percent light gray (10YR 7/2) sandy clay loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; the light red and brownish yellow areas are iron accumulations; the light gray areas are iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 to more than 80 inches
Thickness of the sandy epipedon: 20 to 40 inches
Content of gravel: Less than 5 percent
Concentrations: 0 to 2 percent ironstone nodules throughout
Depth to chroma of 2 or less: 30 inches or more
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loamy sand

E horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—loamy sand or loamy fine sand

Bt horizon, upper part:
Hue—7.5YR or 10YR
Value—5 to 7
Chroma—4 to 8
Redoximorphic features—few or common in shades of red, brown, or yellow
Texture—sandy loam or sandy clay loam

Bt horizon, lower part:
Hue—7.5YR or 10YR; or variegated in shades of red, brown, yellow, or gray
Value—5 to 7
Chroma—3 to 8; 2 or less below a depth of 60 inches
Redoximorphic features—common or many in shades of red, brown, yellow, or gray
Texture—sandy loam or sandy clay loam

Carnegie Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Clayey marine sediments
Depth to the seasonal high water table: More than 6 feet
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges, side slopes, and knolls
Slope: 3 to 8 percent
Taxonomic class: Fine, kaolinitic, thermic Plinthic Kandiudults

Commonly Associated Soils

- Cowarts and Norfolk soils, which have less than 5 percent plinthite in the subsoil and are fine-loamy
- Dothan and Fuquay soils, which are fine-loamy
- Nankin and moderately well drained Gritney soils, which have less than 5 percent plinthite in the subsoil
- Tifton soils, which have more than 5 percent plinthite below a depth of 30 inches and are fine-loamy

Typical Pedon

Carnegie gravelly sandy loam, 5 to 8 percent slopes; 1.5 miles north of Whigham on Georgia Highway 179 from its intersection with U.S. Highway 84, about 400 feet east of the highway; Grady County; USGS Whigham topographic quadrangle (1974); lat. 30 degrees 54 minutes 16 seconds N. and long. 84 degrees 19 minutes 39 seconds W.

Apc—0 to 6 inches; brown (7.5YR 5/4) gravelly sandy loam; weak fine granular structure; very friable; many very fine and fine roots; about 15 percent,

by volume, ironstone nodules; strongly acid; abrupt wavy boundary.
Btc—6 to 20 inches; strong brown (7.5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; many very fine and fine roots; common distinct clay films on faces of peds; about 10 percent, by volume, ironstone nodules; very strongly acid; gradual wavy boundary.
Btv1—20 to 32 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm; few fine roots; many distinct clay films on faces of peds; about 5 percent, by volume, plinthite; common medium prominent red (2.5YR 4/6) and common medium distinct yellowish brown (10YR 5/6) irregularly shaped masses of relic iron accumulation with diffuse boundaries; very strongly acid; gradual wavy boundary.
Btv2—32 to 45 inches; clay, 40 percent red (2.5YR 4/6), 30 percent strong brown (7.5YR 5/8), and 30 percent very pale brown (10YR 7/4) in a variegated pattern; moderate medium subangular blocky structure; firm; many distinct clay films on faces of peds; about 5 percent, by volume, plinthite; the red and strong brown areas are relic iron accumulations; very strongly acid; gradual wavy boundary.
Bt1—45 to 62 inches; sandy clay, 35 percent red (10R 4/6), 35 percent strong brown (7.5YR 5/6), and 30 percent very pale brown (10YR 8/2) in a variegated pattern; moderate medium subangular blocky structure; firm; few distinct clay films on faces of peds; the red and strong brown areas are relic iron accumulations; the very pale brown areas are relic iron depletions; very strongly acid; gradual wavy boundary.
Bt2—62 to 76 inches; sandy clay loam, 35 percent yellowish red (5YR 5/8), 35 percent reddish brown (2.5YR 4/4), and 30 percent strong brown (7.5YR 5/6) in a variegated pattern; weak medium subangular blocky structure; friable; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Thickness of the sandy epipedon: Less than 20 inches
Content of gravel: Less than 5 percent
Concentrations: 5 to 20 percent, by volume, ironstone nodules
Depth to chroma of 2 or less: 30 inches or more
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A, Ap, or Apc horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 to 6
Texture—sandy loam or gravelly sandy loam

Btc horizon (where present):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—6 to 8
Texture—sandy clay loam or sandy clay

Bt horizon, upper part (where present):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—6 to 8
Relic redoximorphic features—none to few in shades of red or yellow
Texture—sandy clay loam or sandy clay

Btv horizon:
Hue—7.5YR or 10YR; or variegated in shades of red, brown, yellow, or gray
Value—4 or 5
Chroma—6 to 8
Relic redoximorphic features—few or common in shades of red, brown, yellow, or gray
Texture—sandy clay or clay

Bt horizon, lower part (where present):
Hue—variegated from 10R to 10YR
Value—4 to 8
Chroma—1 to 8
Relic redoximorphic features—common or many in shades of red, brown, yellow, or gray
Texture—sandy clay, sandy clay loam, or clay

Cowarts Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate in the subsoil and moderately slow or slow in the substratum
Parent material: Loamy marine sediments (fig. 9)
Depth to the seasonal high water table: More than 6 feet
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and side slopes
Slope: 5 to 12 percent
Taxonomic class: Fine-loamy, kaolinitic, thermic Typic Kanhapludults

Commonly Associated Soils

- Carnegie and Orangeburg soils, which have a solum that is more than 40 inches thick
- Fuquay soils, which have a sandy epipedon that ranges from 20 to 40 inches in thickness

- Moderately well drained Gritney soils, which are clayey
- Nankin soils, which are clayey

Typical Pedon

Cowarts loamy sand, in an area of Cowarts-Gritney complex, 5 to 8 percent slopes; 1.0 mile east on Georgia Highway 312 from its intersection with Georgia Highway 262, about 0.1 mile north on a dirt road, and 25 feet west of the road; Decatur County; USGS Climax North topographic quadrangle (1974); lat. 30 degrees 53 minutes 57 seconds N. and long. 84 degrees 23 minutes 35 seconds W.

A—0 to 4 inches; brown (10YR 5/3) loamy sand; weak fine granular structure; very friable; many fine and medium roots; about 2 percent, by volume, ironstone nodules; strongly acid; clear smooth boundary.

BE—4 to 9 inches; yellowish brown (10YR 5/6) sandy loam; weak fine granular structure; very friable; common fine roots; strongly acid; clear smooth boundary.

Bt1—9 to 18 inches; strong brown (7.5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; strongly acid; clear smooth boundary.

Bt2—18 to 25 inches; yellowish red (5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; strongly acid; clear smooth boundary.

BC—25 to 31 inches; yellowish red (5YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; common medium prominent yellowish brown (10YR 5/4) irregularly shaped masses of relic iron accumulation with abrupt boundaries; strongly acid; clear smooth boundary.

C—31 to 65 inches; sandy loam, 40 percent brownish yellow (10YR 6/8), 35 percent yellowish brown (10YR 5/4 and 5/8), and 25 percent white (10YR 8/1) in a variegated pattern; massive; friable; the brownish yellow and yellowish brown areas are relic iron accumulations; the white areas are relic iron depletions; strongly acid.

Range in Characteristics

Thickness of the solum: 20 to 40 inches
Thickness of the sandy epipedon: Less than 20 inches
Content of rock fragments: 0 to 10 percent in some pedons
Depth to chroma of 2 or less: 20 to 40 inches
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loamy sand

E horizon (where present):
Hue—10YR
Value—5
Chroma—4 to 6
Texture—loamy sand or sandy loam

BE horizon (where present):
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 8
Texture—sandy loam

Bt horizon:
Hue—5YR to 10YR
Value—5 or 6
Chroma—6 to 8
Relic redoximorphic features—none to common in shades of red, brown, or yellow
Texture—sandy clay loam or sandy clay

BC horizon (where present):
Hue—5YR to 10YR; or variegated in shades of red, brown, yellow, or gray
Value—5 or 6
Chroma—6 to 8
Relic redoximorphic features—common in shades of red, brown, yellow, or gray
Texture—sandy loam or sandy clay loam

C horizon:
Hue—2.5YR to 10YR; or variegated in shades of red, brown, yellow, or gray
Value—4 to 8
Chroma—1 to 8
Relic redoximorphic features—common or many in shades of red, brown, yellow, or gray
Texture—loamy sand, sandy loam, or sandy clay loam

Dothan Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate in the upper part and moderately slow in the lower part
Parent material: Loamy marine sediments
Depth to the seasonal high water table: 3 to 5 feet, January through April

Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges
Slope: 0 to 5 percent
Taxonomic class: Fine-loamy, kaolinitic, thermic Plinthic Kandiudults

Commonly Associated Soils

- Carnegie and Nankin soils, which are clayey and are in the slightly higher positions
- Faceville soils, which are clayey, are redder than the Dothan soils, and have less than 5 percent plinthite
- Fuquay and Lucy soils, which have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Norfolk and Orangeburg soils, which do not have a horizon with more than 5 percent plinthite within a depth of 60 inches
- Tifton soils, which have 5 percent or more ironstone nodules in the upper part of the solum

Typical Pedon

Dothan loamy sand, 0 to 2 percent slopes; 0.3 mile west on Green Shade Road from its intersection with Georgia Highway 309, about 0.8 mile south on Robert Stephens Road from its intersection with Green Shade Road, and 55 feet east of the road; Decatur County; USGS Fowlstown topographic quadrangle (1974); lat. 30 degrees 47 minutes 06 seconds N. and long. 84 degrees 33 minutes 31 seconds W.

Ap—0 to 12 inches; grayish brown (10YR 5/2) loamy sand; weak fine granular structure; very friable; common very fine and fine roots; about 4 percent, by volume, ironstone nodules; neutral; abrupt smooth boundary.

Btc—12 to 24 inches; yellowish brown (10YR 5/8) sandy clay loam; weak fine subangular blocky structure; friable; common very fine and fine roots; 4 percent, by volume, ironstone nodules; very strongly acid; gradual smooth boundary.

Bt1—24 to 34 inches; brownish yellow (10YR 6/8) sandy clay loam; weak medium subangular blocky structure; friable; few very fine and fine roots; about 4 percent, by volume, ironstone nodules; few fine distinct light yellowish brown (10YR 6/4) irregularly shaped masses of iron accumulation with diffuse boundaries; strongly acid; gradual smooth boundary.

Bt2—34 to 48 inches; brownish yellow (10YR 6/8) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; about 4 percent, by volume, ironstone nodules; strongly acid; gradual smooth boundary.

Btv—48 to 65 inches; yellow (10YR 7/8) sandy clay loam; weak medium subangular blocky structure; friable; about 10 percent, by volume, plinthite; about 5 percent, by volume, ironstone nodules; common medium distinct reddish yellow (7.5YR 6/8) irregularly shaped masses of iron accumulation with diffuse boundaries; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: Less than 20 inches
Content of pebbles: Less than 5 percent
Concentrations: 0 to 5 percent ironstone nodules
Depth to chroma of 2 or less: 30 inches or more
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—loamy sand

BA horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—3 to 8
Texture—sandy loam

Bt and Btc horizons:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—6 to 8
Redoximorphic features—none or few in shades of red, brown, or yellow
Texture—sandy loam or sandy clay loam

Btv horizon:
Hue—7.5YR or 10YR; or variegated in shades of red, brown, yellow, or gray
Value—5 to 7
Chroma—6 to 8
Redoximorphic features—few or common in shades of red, brown, yellow, or gray
Texture—sandy clay loam

Faceville Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Clayey marine sediments (fig. 10)
Depth to the seasonal high water table: More than 6 feet
Landscape: Coastal Plain

Landform: Uplands
Landform position: Broad ridges and shoulder slopes
Slope: 0 to 8 percent
Taxonomic class: Fine, kaolinitic, thermic Typic Kandiudults

Commonly Associated Soils

- Dothan soils, which are fine-loamy, are more yellow than the Faceville soils, and have a Bt horizon that contains 5 percent or more plinthite
- Nankin soils, which have more than a 20 percent decrease in clay content within a depth of 60 inches
- Orangeburg soils, which are fine-loamy

Typical Pedon

Faceville sandy loam, 0 to 5 percent slopes; 1.8 miles southwest of Rocky Hill on Meridian Road from its intersection with Hadley Ferry Road, 200 feet south of the road; Grady County; USGS Beachton topographic quadrangle (1982); lat. 30 degrees 41 minutes 36 seconds N. and long. 84 degrees 14 minutes 10 seconds W.

Ap—0 to 4 inches; brown (7.5YR 4/3) sandy loam; weak medium granular structure; very friable; many very fine and fine and common medium roots; strongly acid; clear smooth boundary.
BA—4 to 7 inches; yellowish red (5YR 4/6) sandy clay loam; weak fine subangular blocky structure; friable; many very fine and fine and common medium roots; strongly acid; clear smooth boundary.
Bt1—7 to 30 inches; red (2.5YR 4/8) sandy clay; weak fine subangular blocky structure; firm; few very fine roots; common faint clay films on faces of peds; very strongly acid; gradual smooth boundary.
Bt2—30 to 50 inches; red (2.5YR 4/8) sandy clay; moderate medium subangular blocky structure; firm; common faint clay films on faces of peds; very strongly acid; gradual smooth boundary.
Bt3—50 to 65 inches; red (10R 4/8) sandy clay; weak fine subangular blocky structure; firm; common faint clay films on faces of peds; strongly acid; gradual smooth boundary.

Range in Characteristics

Thickness of the solum: 65 inches or more
Thickness of the sandy epipedon: Less than 20 inches
Content of pebbles: Less than 5 percent
Concentrations: 0 to 10 percent throughout
Depth to chroma of 2 or less: More than 60 inches
Reaction: Very strongly acid or strongly acid, except where lime has been applied

A or Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 or 4
Texture—sandy loam

BA horizon (where present):
Hue—5YR
Value—4 or 5
Chroma—6 to 8
Texture—sandy clay loam

Bt horizon:
Hue—10R to 5YR
Value—4 or 5
Chroma—6 to 8
Texture—sandy clay
Relic redoximorphic features—common in shades of brown or yellow in the lower part

BC horizon (where present):
Hue—2.5YR; or variegated in shades of red, brown, or yellow
Value—4 or 5
Chroma—4 to 8
Texture—sandy clay loam or sandy clay
Relic redoximorphic features—none to common in shades of brown or yellow

Fuquay Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Rapid in the A and E horizons, moderate in the Bt horizon, and slow in the Btv horizon
Parent material: Sandy and loamy marine sediments (fig. 11)
Depth to the seasonal high water table: 4 to 6 feet, January through March
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and adjacent side slopes
Slope: 1 to 8 percent
Taxonomic class: Loamy, kaolinitic, thermic Arenic Kandiudults

Commonly Associated Soils

- Blanton soils, which are in the higher positions and have a sandy epipedon that ranges from 40 to 80 inches in thickness
- Bonneau and Wagram soils, which do not have more than 5 percent plinthite and are in positions similar to those of the Fuquay soils
- Carnegie soils, which are in the higher positions,

are clayey, and have a sandy epipedon that is less than 20 inches thick
- Cowarts soils, which are on slope breaks and have a sandy epipedon that is less than 20 inches thick
- Dothan and Tifton soils, which are in positions similar to those of the Fuquay soils and have a sandy epipedon that is less than 20 inches thick
- Nankin soils, which are on slope breaks and have a sandy epipedon that is less than 20 inches thick
- Norfolk soils, which, do not have more than 5 percent plinthite, are in positions similar to those of the Fuquay soils, and have a sandy epipedon that is less than 20 inches thick
- Orangeburg soils, which are in the higher positions, do not have more than 5 percent plinthite, and have a sandy epipedon that is less than 20 inches thick

Typical Pedon

Fuquay loamy sand, 1 to 5 percent slopes; 0.6 mile south of Spring Hill church on Peeble's Still Road, 0.4 mile east on Kims Road, and 205 feet east in a field; Grady County; USGS Reno topographic quadrangle (1974); lat. 30 degrees 57 minutes 59 seconds N. and long. 84 degrees 18 minutes 31 seconds W.

Ap—0 to 8 inches; brown (10YR 4/3) loamy sand; weak fine granular structure; very friable; few fine roots; about 1 percent, by volume, ironstone nodules 5 millimeters in size; very strongly acid; clear smooth boundary.

E—8 to 32 inches; brownish yellow (10YR 6/6) loamy sand; common medium light gray (10YR7/1) bodies of clean sand grains in the lower part; weak fine granular structure; loose; few fine roots; about 1 percent, by volume, ironstone nodules 5 millimeters in size; very strongly acid; clear smooth boundary.

Bt—32 to 40 inches; yellowish brown (10YR 5/8) sandy loam; weak medium subangular blocky structure; very friable; about 3 percent, by volume, nodular plinthite 5 millimeters in size; very strongly acid; clear smooth boundary.

Btv1—40 to 58 inches; brownish yellow (10YR 6/8) sandy clay loam; moderate medium subangular blocky structure; friable; common medium distinct yellow (10YR 7/8) and yellowish brown (10YR 5/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; common medium prominent light gray (10YR 7/1) irregularly shaped iron depletions with diffuse boundaries throughout; about 10 percent, by volume, plinthite; about 3 percent, by volume, ironstone nodules 5 millimeters in size; very strongly acid; clear smooth boundary.

Btv2—58 to 72 inches; brownish yellow (10YR 6/8) sandy clay loam; moderate medium subangular blocky structure; friable; common medium distinct yellow (10YR 7/8) and yellowish brown (10YR 5/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; common medium prominent light gray (10YR 7/1) irregularly shaped iron depletions with diffuse boundaries throughout; about 7 percent, by volume, plinthite; about 1 percent, by volume, ironstone nodules 5 millimeters in size; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: 20 to 40 inches
Content of pebbles: Less than 15 percent
Concentrations: 0 to 3 percent ironstone nodules throughout
Depth to chroma of 2 or less: 30 inches or more
Reaction: Very strongly acid to moderately acid, except where lime has been applied

A or Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 3
Texture—loamy sand

E horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—3 to 6
Texture—sand or loamy sand

BE horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—4 to 8
Texture—sandy loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—6 to 8
Redoximorphic features—none to common in shades of red or yellow
Texture—sandy loam or sandy clay loam

Btv horizon:
Hue—7.5YR or 10YR; or variegated in shades of red, brown, yellow, or gray
Value—5 or 6
Chroma—6 to 8
Redoximorphic features—none to many in shades of red, brown, yellow, or gray
Texture—sandy loam or sandy clay loam

Goldsboro Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Loamy marine sediments (fig. 12)
Depth to the seasonal high water table: 2 to 3 feet, December through April
Landscape: Coastal Plain
Landform: Uplands
Landform position: Slightly concave interfluves
Slope: 0 to 2 percent
Taxonomic class: Fine-loamy, siliceous, subactive, thermic Aquic Paleudults

Commonly Associated Soils

- Bonneau soils, which are well drained, are in the higher positions, and have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Lynchburg soils, which are somewhat poorly drained and are in the slightly lower positions
- Norfolk soils, which are well drained
- Pelham soils, which are poorly drained, are in the lower positions, and have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Ocilla soils, which are somewhat poorly drained, are in the lower positions, and have a sandy epipedon that ranges from 20 to 40 inches in thickness

Typical Pedon

Goldsboro loamy sand, 0 to 2 percent slopes; 3.8 miles north of Climax on Georgia Highway 262 from its intersection with U.S. Highway 84, about 190 feet west of the highway; Decatur County; USGS Climax North topographic quadrangle (1974); lat. 30 degrees 55 minutes 39 seconds N. and long. 84 degrees 24 minutes 46 seconds W.

A—0 to 5 inches; dark gray (10YR 4/1) loamy sand; weak fine granular structure; very friable; many very fine and fine and few coarse roots; strongly acid; clear smooth boundary.

E—5 to 10 inches; grayish brown (2.5Y 5/2) loamy sand; weak fine granular structure; very friable; common fine and medium roots; strongly acid; clear wavy boundary.

Bt1—10 to 17 inches; light yellowish brown (2.5Y 6/4) sandy loam; weak medium subangular blocky structure; friable; few fine and medium roots; few fine faint olive yellow (2.5Y 6/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Bt2—17 to 25 inches; olive yellow (2.5Y 6/6) sandy clay loam; weak medium subangular blocky structure; friable; few fine and medium roots; common medium prominent yellowish brown (10YR 5/8) and common fine distinct yellow (2.5Y 7/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; common fine prominent gray (2.5Y 6/1) irregularly shaped iron depletions with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Bt3—25 to 40 inches; brownish yellow (10YR 6/8) clay loam; moderate medium subangular blocky structure; firm; few medium roots; many medium faint yellowish brown (10YR 5/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; many medium prominent gray (10YR 6/1) irregularly shaped iron depletions with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Bt4—40 to 50 inches; yellowish brown (10YR 5/8) sandy clay; moderate medium subangular blocky structure; firm; many medium prominent strong brown (7.5YR 5/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; many medium prominent gray (10YR 6/1) irregularly shaped iron depletions with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Btg—50 to 60 inches; light gray (10YR 7/1) sandy clay loam; moderate medium subangular blocky structure; firm; common medium prominent brownish yellow (10YR 6/8) and yellow (10YR 7/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: Less than 20 inches
Content of pebbles: Less than 5 percent
Depth to chroma of 2 or less: 18 to 30 inches
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 3
Texture—loamy sand

E horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—2 to 4
Texture—loamy sand

BE horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—sandy loam

Bt horizon, upper part:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—4 to 6
Redoximorphic features—few to many in shades of red, brown, yellow, or gray
Texture—sandy clay loam, sandy loam, or clay loam

Bt horizon, lower part:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—4 to 8
Redoximorphic features—few to many in shades of red, brown, yellow, or gray
Texture—sandy clay loam, clay loam, or sandy clay

Btg horizon (where present):
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 or 2
Redoximorphic features—common or many in shades of red, brown, or yellow
Texture—sandy clay loam or sandy clay

Grady Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Parent material: Clayey marine sediments
Seasonal high water table: 2 feet above the surface to 1 foot below the surface
Landscape: Coastal Plain
Landform: Uplands
Landform position: Upland depressions
Slope: 0 to 2 percent
Taxonomic class: Fine, kaolinitic, thermic Typic Paleaquults

Commonly Associated Soils

- Lynchburg soils, which are in the higher positions, are somewhat poorly drained, and are fine-loamy
- Ocilla soils, which are in the higher positions, are somewhat poorly drained, and have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Pelham soils, which have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Rembert soils, which have more than a 20 percent decrease in clay content within a depth of 60 inches
- Wahee soils, which are somewhat poorly drained and are in the higher positions

Typical Pedon

Grady sandy loam, ponded; 5.5 miles north on U.S. Highway 27 from its intersection with U.S. Highway 84 in West Bainbridge, 1,060 feet east of U.S. Highway 27; Decatur County; USGS Bainbridge topographic quadrangle (1974); lat. 30 degrees 59 minutes 44 seconds N. and long. 84 degrees 37 minutes 14 seconds W.

Ap—0 to 6 inches; dark gray (10YR 4/1) sandy loam; weak fine granular structure; very friable; few very fine and many fine roots; very strongly acid; abrupt smooth boundary.

Btg1—6 to 12 inches; grayish brown (10YR 5/2) clay; moderate medium subangular blocky structure; firm; common fine roots; few faint clay films on faces of peds; few fine prominent strong brown (7.5YR 5/8) and light brown (7.5YR 6/4) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; clear wavy boundary.

Btg2—12 to 40 inches; grayish brown (10YR 5/2) clay; few fine distinct light gray (10YR 7/1) variegations; moderate medium subangular blocky structure; firm; few fine roots; few faint clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; clear wavy boundary.

Btg3—40 to 65 inches; sandy clay, 40 percent grayish brown (10YR 5/2), 30 percent light gray (10YR 7/1), and 30 percent strong brown (7.5YR 5/8) in a variegated pattern; weak medium subangular blocky structure; firm; few distinct clay films on faces of peds; the grayish brown and light gray areas are iron depletions with diffuse boundaries throughout; the strong brown areas are masses of iron accumulation with diffuse boundaries throughout; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: Less than 20 inches
Content of rock fragments: Less than 5 percent
Depth to chroma of 2 or less: 4 to 10 inches
Reaction: Extremely acid to strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR or 2.5Y
Value—3 or 4
Chroma—1 or 2
Texture—sandy loam

E horizon (where present):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 or 2
Redoximorphic features—reduced matrix
Texture—sandy loam

BEg horizon (where present):
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—1 or 2
Redoximorphic features—few to many in shades of red, brown, or yellow or reduced matrix
Texture—sandy clay loam or clay loam

Btg horizon:
Hue—10YR to 5Y; or, below a depth of 30 inches, variegated in shades of gray, red, brown, or yellow
Value—5 to 7
Chroma—1 or 2
Redoximorphic features—few to many in shades of red, brown, or yellow or reduced matrix
Texture—sandy clay or clay

Gritney Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow
Parent material: Clayey marine sediments
Depth to the seasonal high water table: 1 1/2 to 3 feet, December through April
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and short side slopes
Slope: 5 to 12 percent
Taxonomic class: Fine, mixed, semiactive, thermic Aquic Hapludults

Commonly Associated Soils

- Bonneau soils, which are well drained and have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Carnegie soils, which have more than 5 percent plinthite within a depth of 60 inches, are well drained, and are in positions similar to those of the Gritney soils
- Cowarts soils, which are well drained, are fine-loamy, and are in positions similar to those of the Gritney soils

Typical Pedon

Gritney loamy sand, in an area of Cowarts-Gritney complex, 5 to 8 percent slopes; 0.8 mile north of Climax on Salem Church Road from its intersection with U.S. Highway 84, about 600 feet east of the road; Decatur County; USGS Climax North topographic quadrangle; lat. 30 degrees 53 minutes 23 seconds N. and long. 84 degrees 26 minutes 21 seconds W.

Ap—0 to 8 inches; yellowish brown (10YR 5/4) loamy sand; weak fine granular structure; very friable; many very fine and fine roots; very strongly acid; abrupt smooth boundary.
Bt1—8 to 18 inches; yellowish brown (10YR 5/8) sandy clay; moderate medium subangular blocky structure; firm; common fine and medium roots; few distinct clay films on faces of peds; few fine prominent red (2.5YR 5/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; clear wavy boundary.
Bt2—18 to 50 inches; sandy clay, 45 percent reddish brown (2.5YR 4/4), 40 percent yellowish brown (10YR 5/8), and 15 percent light gray (5YR 7/1) in a variegated pattern; moderate medium subangular blocky structure; firm; many distinct clay films on faces of peds; the reddish brown and yellowish brown areas are iron accumulations; the light gray areas are iron depletions; extremely acid; gradual wavy boundary.
Cg—50 to 65 inches; light gray (5YR 7/1) clay loam; thin strata and veins of sandy clay loam; massive; very firm and cemented in place; common medium prominent reddish brown (2.5YR 4/4) and yellowish brown (10YR 5/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; extremely acid.

Range in Characteristics

Thickness of the solum: 35 to 60 inches
Thickness of the sandy epipedon: Less than 20 inches
Content of pebbles: 0 to 10 percent in some pedons
Depth to chroma of 2 or less: 18 to 28 inches
Reaction: Extremely acid to strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—loamy sand

E horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—loamy sand or loamy fine sand

Bt horizon:
Hue—5YR to 10YR; or, in the middle or lower part, variegated in shades of red, brown, yellow, or gray
Value—5 or 6
Chroma—4 to 8
Redoximorphic features—few to many in shades of red, brown, yellow, or gray
Texture—clay loam, sandy clay, or clay

BC horizon (where present):
Hue—5YR to 10YR; or variegated in shades of red, brown, yellow, or gray
Value—5 or 6
Chroma—4 to 6
Redoximorphic features—common or many in shades of red, brown, yellow, or gray
Texture—sandy clay loam or sandy clay

Cg horizon, where present:
Hue—5YR, 7.5YR, 10YR, or 2.5Y; or variegated in shades of red, brown, yellow, or gray
Value—4 to 7
Chroma—1 or 2
Redoximorphic features—common in shades of red, brown, yellow, or gray
Texture—dominantly sandy clay loam, loam, or clay loam with lenses, pockets, or strata of loamy sand or sandy loam. In some pedons, however, the Cg or 2Cg horizon is clay.

Hornsville Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slow
Parent material: Loamy and clayey marine sediments
Depth to the seasonal high water table: 2½ to 3½ feet, December through April
Landscape: Coastal Plain
Landform: Broad stream terraces
Landform position: Smooth, level flats
Slope: 0 to 2 percent
Taxonomic class: Fine, kaolinitic, thermic Aquic Hapludults

Commonly Associated Soils

- Bigbee soils, which are excessively drained and are on low stream terraces
- Wahee soils, which are somewhat poorly drained and are in shallow depressions
- Lucy and Orangeburg soils, which are on the higher ridges, are well drained, and are fine-loamy

Typical Pedon

Hornsville fine sandy loam, 0 to 2 percent slopes; 0.7 mile south on Georgia Highway 253 from its intersection with U.S. Highway 84 in West Bainbridge, 0.6 mile west on the county road at the prison farm, and 50 feet north of road; Decatur County; USGS Bainbridge topographic quadrangle (1974); lat. 30 degrees 54 minutes 34 seconds N. and long. 84 degrees 36 minutes 46 seconds W.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; few very fine, fine, and medium roots; moderately acid; clear smooth boundary.
E—6 to 10 inches; light yellowish brown (10YR 6/4) sandy loam; weak fine granular structure; very friable; common very fine and fine roots; few fine flakes of mica; strongly acid; clear smooth boundary.
Bt1—10 to 16 inches; strong brown (7.5YR 5/6) clay loam; moderate medium subangular blocky structure; firm; few fine and medium roots; common distinct clay films on faces of peds; few fine flakes of mica; few fine prominent red (2.5YR 5/6) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; gradual smooth boundary.
Bt2—16 to 24 inches; strong brown (7.5YR 5/6) clay; moderate medium subangular blocky structure; firm; few fine and medium roots; many distinct clay films on faces of peds; few fine flakes of mica; common medium prominent red (2.5YR 5/6) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; gradual smooth boundary.
Bt3—24 to 28 inches; clay loam, 40 percent reddish yellow (7.5YR 6/6), 35 percent red (2.5YR 5/6), and 25 percent light gray (10YR 7/2) in a variegated pattern; moderate medium subangular blocky structure; firm; few fine and medium roots; many distinct clay films on faces of peds; few fine flakes of mica; the red and reddish yellow areas are irregularly shaped masses of iron accumulation with diffuse boundaries throughout; the light gray areas are irregularly shaped iron depletions with diffuse boundaries throughout; very strongly acid; gradual smooth boundary.
BC—28 to 60 inches; sandy clay loam, 40 percent red (2.5YR 5/6), 35 percent reddish yellow (7.5YR

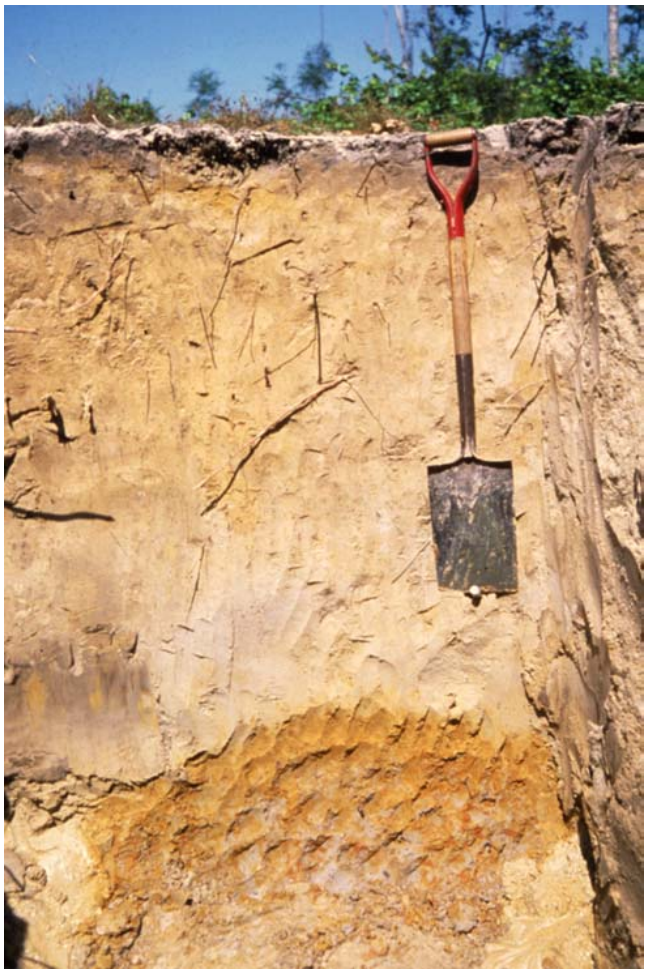

Figure 8.—Profile of Blanton loamy sand, 0 to 5 percent slopes. Blanton soils are characterized by sandy surface and subsurface layers with a combined thickness of 40 to 80 inches.

Figure 9.—Profile of a Cowarts soil in an area of Cowarts-Gritney complex, 5 to 8 percent slopes. Cowarts soils are characterized by a dense layer at a depth of about 30 inches.

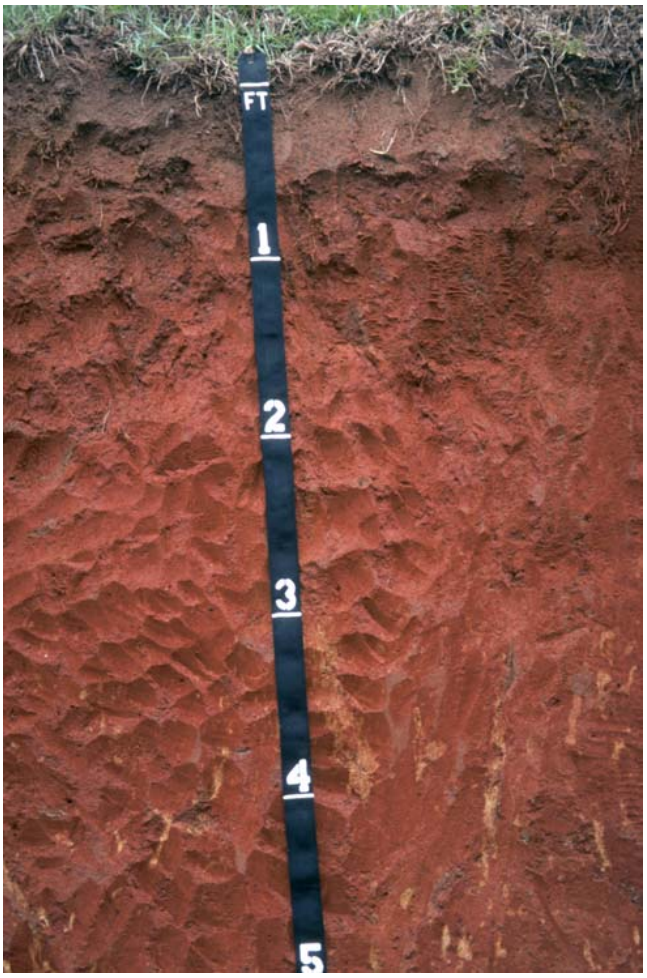

Figure 10.—Profile of Faceville sandy loam, 2 to 5 percent slopes. Faceville soils are well suited to most agronomic and forest crops.

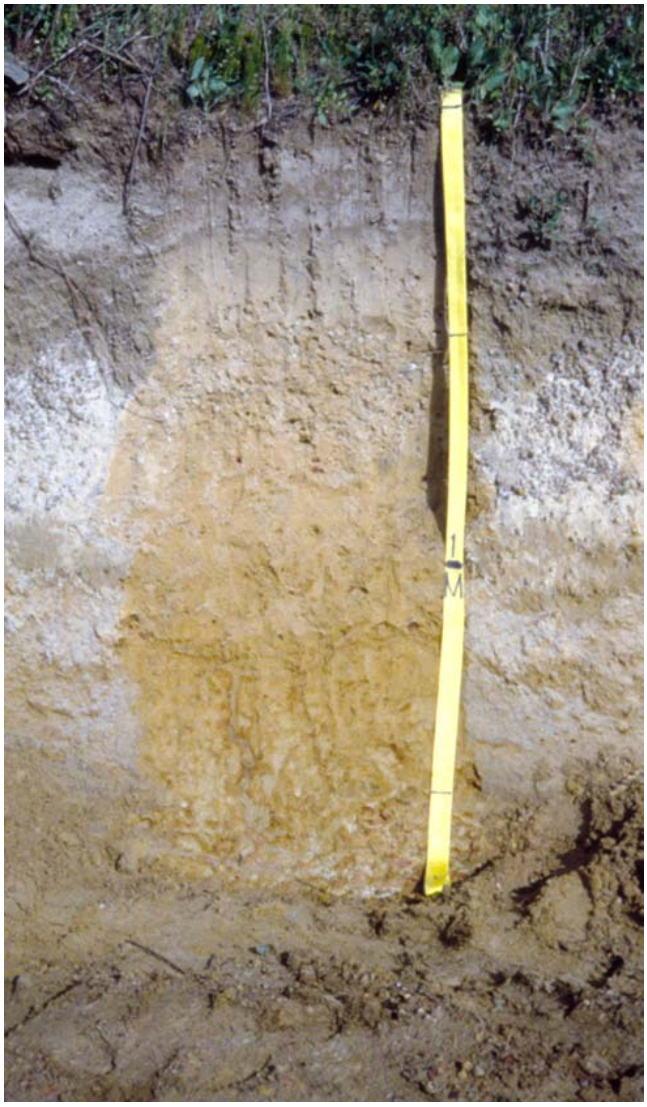

Figure 11.—Profile of Fuquay loamy sand, which has thick, sandy surface and subsurface layers with a combined thickness of 20 to 40 inches.

Figure 12.—Profile of Goldsboro loamy sand. Note the redoximorphic features in the lower part.

Figure 13.—Profile of Lakeland sand, 0 to 5 percent slopes. Lakeland soils are characterized by sandy surface and subsurface layers with a combined thickness of 80 inches or more.

Figure 14.—Profile of Orangeburg loamy sand, 2 to 5 percent slopes. Orangeburg soils are characterized by a red subsoil.

Figure 15.—Profile of Tifton loamy sand. Note the redoximorphic features starting at a depth of about 4 feet.

6/6), and 25 percent light gray (10YR 7/2) in a variegated pattern; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; few fine flakes of mica; the areas of red and reddish yellow are iron accumulations; the areas of light gray are iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to more than 60 inches
Thickness of the sandy epipedon: Less than 20 inches
Content of pebbles: Less than 5 percent
Depth to chroma of 2 or less: 21 to 27 inches
Reaction: Extremely acid to strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR
Value—2 to 4
Chroma—2 or 3
Texture—fine sandy loam

E horizon:
Hue—10YR
Value—4 to 7
Chroma—3 or 4
Texture—loamy sand, loamy fine sand, sandy loam, or fine sandy loam

Bt horizon (upper part):
Hue—5YR to 10YR
Value—4 or 5
Chroma—6 to 8
Redoximorphic features—few to many in shades of red, brown, or yellow
Texture—sandy clay loam, clay loam, sandy clay, or clay

Bt horizon (lower part):
Hue—5YR to 10YR; or variegated in shades of red, brown, yellow, or gray
Value—5 or 6
Chroma—6 to 8
Redoximorphic features—few or common in shades of red, brown, yellow, or gray
Texture—clay loam or sandy clay

BC horizon:
Hue—2.5YR to 10YR; or variegated in shades of red, brown, yellow, or gray
Value—5 or 6
Chroma—6 to 8
Redoximorphic features—few to many in shades of red, yellow, brown, or gray
Texture—sandy clay loam

C horizon (where present):
Hue—variegated in shades of red, brown, yellow, or gray
Redoximorphic features—common or many in shades of red, brown, yellow, or gray
Texture—sandy loam or fine sandy loam

Lakeland Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Parent material: Sandy marine or eolian sediments (fig. 13)
Depth to the seasonal high water table: More than 6 feet
Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges and side slopes
Slope: 0 to 12 percent
Taxonomic class: Thermic, coated Typic Quartzipsamments

Commonly Associated Soils

- Bigbee soils, which are in the lower positions and have a seasonal high water table within a depth of 3½ to 6 feet
- Blanton and Troup soils, which have a sandy epipedon that ranges from 40 to 80 inches in thickness

Typical Pedon

Lakeland sand, 0 to 5 percent slopes; 4.2 miles north of Bainbridge on Georgia Highway 311 from its intersection with Georgia Highway 97, about 1.2 miles west of Georgia Highway 311 on Riverview Road, 1.1 miles south on Riverview Drive, and 60 feet west of the road; Decatur County; USGS Bainbridge topographic quadrangle (1974); lat. 30 degrees 57 minutes 27 seconds N. and long. 84 degrees 33 minutes 26 seconds W.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) sand; single grained; loose; common very fine, fine, and medium roots; few uncoated sand grains; strongly acid; clear wavy boundary.
C1—9 to 40 inches; brownish yellow (10YR 6/6) sand; single grained; loose; few fine and medium roots; few uncoated sand grains; strongly acid; gradual wavy boundary.
C2—40 to 80 inches; yellow (10YR 7/6) sand; single grained; loose; few fine roots; many uncoated sand grains; few very fine flakes of mica; few

medium faint very pale brown (10YR 7/4) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; the iron accumulations are relict redoximorphic features; strongly acid.

Range in Characteristics

Depth of sand: 80 inches or more
Content of rock fragments: Less than 5 percent
Reaction: Very strongly acid to moderately acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—sand or fine sand

C horizon:
Hue—7.5YR or 10YR
Value—4 to 7
Chroma—6 to 8
Texture—sand or fine sand
Relic redoximorphic features—none to common in shades of brown or yellow
Texture—sand or fine sand below a depth of 40 inches

Lucy Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Rapid in the A and E horizons and moderate in the Bt horizon
Parent material: Sandy and loamy marine sediments
Depth to the seasonal high water table: More than 5 feet
Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges and adjacent side slopes
Slope: 0 to 8 percent
Taxonomic class: Loamy, kaolinitic, thermic Arenic Kandiudults

Commonly Associated Soils

- Blanton and Troup soils, which have a sandy epipedon that ranges from 40 to 80 inches in thickness
- Bonneau soils, which have mottles of chroma 2 or less within a depth of 60 inches and have dominant hue of 7.5YR or more yellow in the Bt horizon
- Dothan soils, which have one or more Bt horizons with 5 percent or more plinthite and have a sandy epipedon that is less than 20 inches thick
- Hornsville soils, which are moderately well drained, are on broad stream terraces, and have a clayey subsoil
- Orangeburg soils, which have a sandy epipedon that is less than 20 inches thick
- Wagram soils, which are in positions similar to those of the Lucy soils and have a Bt horizon dominated by hue of 7.5YR or more yellow

Typical Pedon

Lucy loamy sand, 0 to 5 percent slopes; 2.4 miles north of West Bainbridge on U.S. Highway 27 from its intersection with U.S. Highway 84, about 1.0 mile east of U.S. Highway 27 on Whites Mill Road, and 300 feet north of the road; Decatur County; USGS Bainbridge topographic quadrangle; lat. 30 degrees 57 minutes 11 seconds N. and long. 84 degrees 35 minutes 43 seconds W.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; common very fine and fine and few coarse roots; very strongly acid; abrupt smooth boundary.
E1—7 to 14 inches; brown (10YR 4/3) loamy sand; weak fine granular structure; very friable; common very fine and fine and few coarse roots; very strongly acid; clear smooth boundary.
E2—14 to 28 inches; brown (7.5YR 5/4) loamy sand; weak medium granular structure; very friable; few fine roots; very strongly acid; clear smooth boundary.
BE—28 to 33 inches; strong brown (7.5YR 5/6) sandy loam; weak medium granular structure; very friable; few fine roots; very strongly acid; clear smooth boundary.
Bt1—33 to 40 inches; yellowish red (5YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; very strongly acid; clear smooth boundary.
Bt2—40 to 50 inches; red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; very strongly acid; clear wavy boundary.
Bt3—50 to 65 inches; red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; common medium prominent yellowish brown (10YR 5/6) relic iron depletions with sharp boundaries throughout; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: 20 to 40 inches
Content of pebbles: Less than 10 percent

Concentrations: Less than 5 percent ironstone nodules
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—2 or 3
Texture—loamy sand

E horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—3 to 6
Texture—sand or loamy sand

BE horizon (where present):
Hue—5YR or 7.5YR
Value—4 to 6
Chroma—6 to 8
Texture—sandy loam

Bt horizon, upper part:
Hue—2.5YR or 5YR
Value—4 or 5
Chroma—6 to 8
Texture—sandy loam or sandy clay loam

Bt horizon, lower part:
Hue—2.5YR or 5YR
Value—4 to 6
Chroma—6 to 8
Redoximorphic features—none to common in shades of brown or yellow
Texture—sandy clay loam

Lynchburg Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Parent material: Loamy marine sediments
Depth to the seasonal high water table: 1/2 to 1 1/2 feet, December through March
Landscape: Coastal Plain
Landform: Interstream divides and shallow depressions
Landform position: Slightly concave interfluves
Slope: 0 to 2 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Aeric Paleaquults

Commonly Associated Soils

- Goldsboro soils, which are moderately well drained
- Grady and Rembert soils, which are clayey and are poorly drained
- Norfolk soils, which are well drained
- Ocilla soils, which have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Pelham soils, which are poorly drained and have a sandy epipedon that ranges from 20 to 40 inches in thickness

Typical Pedon

Lynchburg fine sandy loam, 0 to 2 percent slopes; 6.7 miles north of Whigham on Georgia Highway 179 from its intersection with U.S. Highway 84, about 50 feet east of the highway; Grady County; USGS Whigham topographic quadrangle (1974); lat. 30 degrees 59 minutes 28 seconds N. and long. 84 degrees 21 minutes 08 seconds W.

Ap—0 to 9 inches; dark gray (10YR 4/1) fine sandy loam; weak medium granular structure; very friable; many fine and few medium and coarse roots; strongly acid; clear wavy boundary.

E—9 to 18 inches; light gray (10YR 7/2) fine sandy loam; common fine prominent strong brown (7.5YR 5/6) iron concentrations in root channels; weak medium subangular blocky structure; very friable; many fine and few medium and coarse roots; strongly acid; gradual wavy boundary.

Bt—18 to 22 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; common fine and few medium roots; many medium prominent light brownish gray (10YR 6/2) iron depletions with diffuse boundaries throughout; common medium distinct brownish yellow (10YR 6/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Btg1—22 to 34 inches; light gray (10YR 7/2) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; common distinct clay films on faces of peds; many medium prominent strong brown (7.5YR 5/6) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Btg2—34 to 39 inches; light gray (10YR 7/1) sandy clay loam; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; many medium prominent brownish yellow (10YR 6/6) and common medium prominent red (2.5YR 4/6) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Btg3—39 to 56 inches; light gray (10YR 7/1) sandy clay loam; moderate medium subangular blocky

structure; friable; common medium prominent brownish yellow (10YR 6/6) and common medium prominent red (2.5YR 4/6) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Btg4—56 to 65 inches; gray (10YR 6/1) sandy clay loam; moderate medium subangular blocky structure; friable; many fine prominent strong brown (7.5YR 4/6) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: Less than 20 inches
Content of rock fragments: Less than 10 percent
Concentrations: 0 to 5 percent ironstone nodules throughout
Depth to chroma of 2 or less: 12 to 18 inches
Reaction: Extremely acid to strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR or 2.5Y
Value—3 or 4
Chroma—1 or 2
Texture—fine sandy loam or sandy loam

E horizon (where present):
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—2 to 4
Redoximorphic features—none to common in shades of brown or yellow
Texture—loamy sand, sandy loam, or fine sandy loam

Bt horizon:
Hue—10YR or 2.5Y; or variegated in shades of brown, yellow, or gray
Value—5 or 6
Chroma—4 to 6
Redoximorphic features—few to many in shades of red, brown, yellow, or gray
Texture—sandy clay loam

Btg horizon:
Hue—10YR
Value—6 or 7
Chroma—1 or 2
Redoximorphic features—few to many in shades of red, brown, or yellow
Texture—sandy clay loam or clay loam

BCg horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—1 or 2
Redoximorphic features—few to many in shades of red, brown, or yellow
Texture—sandy loam

Nankin Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Loamy and clayey marine sediments
Depth to the seasonal high water table: More than 6 feet
Landscape: Coastal Plain
Landform: Uplands
Landform position: Upper side slopes
Slope: 2 to 12 percent
Taxonomic class: Fine, kaolinitic, thermic Typic Kanhapludults

Commonly Associated Soils

- Carnegie soils, which have more than 5 percent plinthite
- Cowarts soils, which are in positions similar to those of the Nankin soils and are fine loamy
- Dothan and Tifton soils, which have more than 5 percent plinthite and are fine-loamy
- Faceville soils, which do not have a 20 percent decrease in clay content in the lower part of the B horizon
- Fuquay soils, which have more than 5 percent plinthite and have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Orangeburg soils, which are fine-loamy

Typical Pedon

Nankin fine sandy loam in an area of Nankin-Cowarts complex, 5 to 8 percent slopes; 4.2 miles northeast of Whigham on U.S. Highway 84 from its intersection with Georgia Highway 179, about 100 feet north of the highway; Grady County; USGS Whigham topographic quadrangle (1974); lat. 30 degrees 54 minutes 09 seconds N. and long. 84 degrees 15 minutes 07 seconds W.

Ap—0 to 6 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; few ironstone nodules; very strongly acid; abrupt smooth boundary.

Bt1—6 to 21 inches; yellowish red (5YR 5/8) sandy clay; moderate medium subangular blocky

structure; firm; few fine faint red (2.5YR 4/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; gradual wavy boundary.

Bt2—21 to 32 inches; yellowish red (5YR 5/8) sandy clay; moderate medium subangular blocky structure; firm; few fine faint red (2.5YR 4/8) and few fine prominent brownish yellow (10YR 6/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; gradual wavy boundary.

Bt3—32 to 39 inches; yellowish red (5YR 5/8) sandy clay; moderate medium subangular blocky structure; firm; many medium prominent brownish yellow (10YR 6/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; gradual wavy boundary.

BC—39 to 50 inches; yellowish red (5YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; many medium faint red (2.5YR 4/8) and many medium prominent brownish yellow (10YR 6/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; few fine prominent pinkish gray (5YR 7/2) iron depletions with diffuse boundaries throughout; very strongly acid; gradual wavy boundary.

C—50 to 65 inches; sandy loam with pockets of sandy clay loam, 40 percent red (2.5YR 4/8), 35 percent brownish yellow (10YR 6/8), and 25 percent pinkish gray (5YR 7/2) in a variegated pattern; massive; firm; the red and brownish yellow areas are iron accumulations; the pinkish gray areas are iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Thickness of the sandy epipedon: Less than 20 inches
Content of pebbles: 0 to 5 percent in some
Concentrations: 0 to 25 percent ironstone nodules and 0 to 5 percent plinthite
Depth to chroma of 2 or less: 40 inches or more
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 5
Texture—loamy fine sand, fine sandy loam, or sandy loam

BE horizon (where present):
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 8
Texture—sandy loam or sandy clay loam

Bt horizon:
Hue—2.5YR to 10YR; or, in the lower part, variegated in shades of red, brown, or yellow
Value—5 or 6
Chroma—6 to 8
Redoximorphic features—few to many in shades of red, brown, or yellow
Texture—clay loam, sandy clay, or clay

BC horizon (where present):
Hue—2.5YR to 7.5YR; or variegated in shades of red, brown, yellow, pink, or gray
Value—5 or 6
Chroma—6 to 8
Redoximorphic features—few to many in shades of red, brown, yellow, pink, or gray
Texture—sandy clay loam or sandy clay loam with pockets of sandy loam

C horizon:
Hue—variegated in shades of red, brown, yellow, pink, or gray
Redoximorphic features—common or many in shades of red, brown, or gray
Texture—sandy loam with pockets of sandy clay loam or sandy clay

Norfolk Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy marine sediments
Depth to the seasonal high water table: 4 to 6 feet, January through March
Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges
Slope: 0 to 8 percent
Taxonomic class: Fine-loamy, kaolinitic, thermic Typic Kandiudults

Commonly Associated Soils

- Bonneau, Fuquay, and Wagram soils, which have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Carnegie soils, which are clayey and are in the slightly higher positions

- Dothan soils, which are in positions similar to those of the Norfolk soils and have subsoil layers that contain 5 percent or more plinthite
- Goldsboro soils, which are moderately well drained
- Lynchburg soils, which are somewhat poorly drained
- Orangeburg soils, in which all or some part of the Bt horizon has hue of 5YR or redder
- Pelham soils, which are poorly drained and have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Wagram soils, which have a sandy epipedon that ranges from 20 to 40 inches in thickness

Typical Pedon

Norfolk loamy sand, 0 to 2 percent slopes; 5.2 miles east of Bainbridge on Georgia Highway 312 from its intersection with Wheat Avenue in Bainbridge, 0.6 mile north on Palmer Road, 1.0 mile east on Friendship Cemetery Road, and 100 feet north of the road; Decatur County; USGS Climax North topographic quadrangle (1974); lat. 30 degrees 54 minutes 59 seconds N. and long. 84 degrees 27 minutes 59 seconds W.

Ap—0 to 6 inches; very dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many very fine roots; few ironstone nodules; moderately acid; clear smooth boundary.

BE—6 to 14 inches; brown (10YR 5/3) sandy loam; weak medium granular structure; very friable; few fine roots; moderately acid; clear wavy boundary.

Bt1—14 to 22 inches; yellowish brown (10YR 5/4) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; few ironstone nodules; common medium distinct brownish yellow (10YR 6/6) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Bt2—22 to 38 inches; brownish yellow (10YR 6/6) sandy clay loam; moderate medium subangular blocky structure; friable; few very fine roots; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt3—38 to 52 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; common faint clay films on faces of peds; about 2 percent, by volume, nodular plinthite; common medium distinct strong brown (7.5YR 5/6) and few fine prominent red (2.5YR 5/6) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; gradual wavy boundary.

BC—52 to 65 inches; sandy clay loam, 30 percent yellowish red (5YR 5/8), 20 percent strong brown (7.5YR 5/8), 20 percent brownish yellow (10YR 6/6), 20 percent yellowish brown (10YR 5/8), and 10 percent light gray (10YR 7/2) in a variegated pattern; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; about 2 percent, by volume, nodular plinthite; the yellowish red, strong brown, and brownish yellow areas are iron accumulations; the light gray areas are iron depletions; strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: Less than 20 inches
Content of pebbles: Less than 5 percent
Concentrations: 0 to 5 percent ironstone nodules throughout and less than 5 percent plinthite in the Bt horizon
Depth to chroma of 2 or less: 48 to 60 inches
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 or 3
Texture—loamy sand

E horizon (where present):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 or 4
Texture—loamy sand

BE horizon (where present):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 to 8
Texture—sandy loam

Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 8
Redoximorphic features—none to common in shades of brown or yellow
Texture—sandy loam, sandy clay loam, or, below a depth of 40 inches, sandy clay

BC horizon:
Hue—7.5YR or 10YR; or variegated in shades of red, brown, yellow, or gray
Value—5 to 8
Chroma—3 to 8

Redoximorphic features—few or common in shades of red, brown, yellow, or gray
Texture—sandy clay loam or sandy clay

Ocilla Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Parent material: Sandy and loamy marine sediments
Depth to the seasonal high water table: 1 to 2$^1/_2$ feet, December through April
Landscape: Coastal Plain
Landform: Low uplands and stream terraces
Landform position: Slightly concave interfluves
Slope: 0 to 5 percent
Taxonomic class: Loamy, siliceous, semiactive, thermic Aquic Arenic Paleudults

Commonly Associated Soils

- Bibb soils, which are in the lower positions and are poorly drained
- Goldsboro soils, which are in the slightly higher positions and are moderately well drained
- Lynchburg soils, which are in the slightly higher positions and have a sandy surface layer that is less than 20 inches thick
- Poorly drained Pelham, Grady, Rembert soils in depressions

Typical Pedon

Ocilla loamy fine sand, 0 to 2 percent slopes; on Pine Park Road 1.0 mile south of its intersection with a railroad track in Pine Park, east of the road 200 feet; Grady County; USGS Pine Park topographic quadrangle (1982); lat. 30 degrees 50 minutes 30 seconds N. and long. 84 degrees 06 minutes 38 seconds W.

A—0 to 3 inches; dark gray (10YR 4/1) loamy fine sand; weak fine granular structure; very friable; many very fine and common fine roots; strongly acid; clear smooth boundary.
E1—3 to 18 inches; gray (10YR 5/1) loamy fine sand; weak medium granular structure; very friable; common very fine roots; strongly acid; clear smooth boundary.
E2—18 to 27 inches; light gray (10YR 6/1) loamy fine sand; weak fine granular structure; very friable; few very fine roots; common medium faint grayish brown (10YR 5/2) irregularly shaped iron depletions with diffuse boundaries throughout; strongly acid; clear smooth boundary.
Bt1—27 to 45 inches; brownish yellow (10YR 6/8) sandy clay loam; weak fine subangular blocky structure; very friable; about 3 percent, by volume, nodular plinthite; few very fine roots; few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation with diffuse boundaries throughout; common medium prominent light gray (10YR 6/1) iron depletions with diffuse boundaries throughout; strongly acid; gradual smooth boundary.
Bt2—45 to 55 inches; brownish yellow (10YR 6/8) sandy clay; moderate medium subangular blocky structure; friable; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation with diffuse boundaries throughout; common medium prominent light gray (10YR 6/1) iron and clay depletions with diffuse boundaries throughout; very strongly acid; gradual smooth boundary.
Btg—55 to 65 inches; gray (10YR 5/1) sandy clay; weak medium subangular blocky structure; friable; few medium prominent red (2.5YR 4/8), common medium prominent strong brown (7.5YR 5/8), and common medium prominent brownish yellow (10YR 6/8) masses of iron accumulation with diffuse boundaries throughout; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 to 80 inches
Thickness of the sandy epipedon: 20 to 40 inches
Content of pebbles: Less than 5 percent
Content of plinthite: Less than 5 percent
Depth to chroma of 2 or less: 22 to 33 inches
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR
Value—3 or 4
Chroma—1 or 2
Texture—loamy fine sand

E horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 to 4
Redoximorphic features—none to common in shades of brown or gray
Texture—loamy sand or loamy fine sand

BE horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—4 to 6
Redoximorphic features—none to common in shades of red, brown, yellow, or gray
Texture—loamy sand

Bt horizon, upper part:
Hue—7.5YR to 2.5Y
Value—5 to 7
Chroma—2 to 8
Redoximorphic features—few to many in shades of red, brown, yellow, or gray
Texture—sandy loam or sandy clay loam

Bt horizon, lower part:
Hue—7.5YR to 2.5Y; or variegated in shades of red, brown, yellow, or gray
Value—5 to 7
Chroma—3 to 8
Redoximorphic features—few to many in shades of red, brown, yellow, or gray
Texture—sandy loam, sandy clay loam, or sandy clay

Btg horizon (where present):
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 or 2
Redoximorphic features—few to many in shades of red, brown, yellow, or gray
Texture—sandy clay loam or sandy clay

Orangeburg Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy and clayey marine sediments (fig. 14)
Depth to the seasonal high water table: More than 6 feet
Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges
Slope: 0 to 12 percent
Taxonomic class: Fine-loamy, kaolinitic, thermic Typic Kandiudults

Commonly Associated Soils

- Cowarts soils, which have a solum that is less than 40 inches thick
- Dothan and Tifton soils, which have plinthite and have a subsoil that is dominantly 7.5YR in hue or more yellow
- Faceville soils, which are clayey
- Fuquay soils, which have a sandy epipedon that ranges from 20 to 40 inches in thickness and have horizons that contain 5 percent or more plinthite
- Hornsville soils, which are moderately well drained and have a clayey subsoil
- Nankin soils, which are clayey and have a 20 percent decrease in clay content within a depth of 60 inches
- Lucy soils, which have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Norfolk soils, which have a subsoil that is dominantly hue of 7.5YR or more yellow
- Troup soils, which are somewhat excessively drained and have a sandy epipedon that ranges from 40 to 80 inches in thickness

Typical Pedon

Orangeburg loamy sand, 2 to 5 percent slopes; 1.8 miles southeast of Bainbridge on Lake Douglas Road from its intersection with U.S. Highway 84 Bypass, 1.2 miles south on Toole Dairy Road (dirt road) from its intersection with Lake Douglas Road, and 125 feet north of the road; Decatur County; USGS Fowlstown topographic quadrangle (1974); lat. 30 degrees 51 minutes 46 seconds N. and long. 84 degrees 32 minutes 18 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) loamy sand; weak fine granular structure; very friable; many very fine and fine and common medium roots; strongly acid; clear smooth boundary.
BA—8 to 13 inches; brown (7.5YR 4/4) sandy loam; weak medium subangular blocky structure; very friable; common very fine and few fine roots; very strongly acid; clear smooth boundary.
Bt1—13 to 32 inches; red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; friable; common very fine, fine, and medium roots; few faint clay films on faces of peds; very strongly acid; gradual smooth boundary.
Bt2—32 to 72 inches; red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; friable; few very fine roots; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 70 inches or more
Thickness of the sandy epipedon: Less than 20 inches
Content of pebbles: Less than 5 percent
Concentrations: 0 to 3 percent ironstone nodules throughout
Depth to chroma of 2 or less: 60 inches or more
Reaction: Very strongly acid or strongly acid, except where lime has been applied

A or Ap horizon:
Hue—10YR

Value—3 or 4
Chroma—2 to 4
Texture—loamy sand

E horizon (where present):
Hue—7.5YR or 10YR
Value—5
Chroma—4 to 6
Texture—loamy sand

BA horizon (where present):
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—sandy loam or fine sandy loam

Bt horizon:
Hue—2.5YR or 5YR
Value—4 or 5
Chroma—6 to 8
Redoximorphic features—none to common in shades of brown or yellow at a depth of more than 60 inches
Texture—sandy clay loam

Osier Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid
Parent material: Sandy fluvial sediments
Seasonal high water table: At the surface to a depth of 1/2 foot
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Drainageways
Slope: 0 to 2 percent
Taxonomic class: Siliceous, thermic Typic Psammaquents

Commonly Associated Soils

- Bibb soils, which are coarse-loamy
- Pelham soils, which are loamy and have a sandy epipedon that ranges from 20 to 40 inches in thickness

Typical Pedon

Osier loamy fine sand, in an area of Osier and Bibb soils, frequently flooded; from the intersection of Hadley Ferry Road and Turkey Creek, 225 feet north of the creek, and 200 feet east of Hadley Ferry Road; Grady County; USGS Cairo South topographic quadrangle (1974); lat. 30 degrees 45 minutes 52 seconds N. and long. 84 degrees 13 minutes 41 seconds W.

A—0 to 8 inches; dark gray (10YR 4/1) loamy fine sand; about 25 percent clean sand grains; weak fine granular structure; loose; many fine, many medium, and few coarse roots; very strongly acid; clear smooth boundary.
Cg1—8 to 15 inches; gray (10YR 6/1) loamy fine sand; weak fine granular structure; loose; few fine and few medium roots; very strongly acid; clear smooth boundary.
Cg2—15 to 45 inches; grayish brown (10YR 5/2) fine sand; weak fine granular structure; loose; few fine roots; common medium pockets of clean sand grains; very strongly acid; clear smooth boundary.
Cg3—45 to 55 inches; light brownish gray (10YR 6/2) fine sand; weak fine granular structure; loose; many medium pockets of clean sand grains; very strongly acid; clear smooth boundary.
Cg4—55 to 65 inches; light gray (10YR 7/1) fine sand stratified with thin layers of medium sand; weak fine granular structure; loose; very strongly acid.

Range in Characteristics

Depth of sand: 70 inches or more
Content of pebbles: Less than 10 percent
Concentrations: Less than 2 percent
Depth to chroma of 2 or less: 0 inches
Reaction: Extremely acid or very strongly acid throughout

A horizon:
Hue—10YR or 2.5Y
Value—2 to 4
Chroma—1 or 2
Texture—fine sandy loam, loamy fine sand, or fine sand

Cg horizon:
Hue—7.5YR to 2.5Y
Value—3 to 8
Chroma—1 or 2
Redoximorphic features—none to common in shades of gray, brown, or yellow
Texture—loamy fine sand, fine sand, sand, or stratified with these textures

Pelham Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Sandy and loamy marine sediments
Seasonal high water table: At the surface to a depth of 1 foot, January through April
Landscape: Coastal Plain
Landform: Broad flats

Landform position: Flood plains and slight depressions
Slope: 0 to 2 percent
Taxonomic class: Loamy, siliceous, subactive, thermic Arenic Paleaquults

Commonly Associated Soils

- Bonneau soils, which are well drained and are in the higher adjacent positions
- Blanton soils, which are well drained and have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Bibb soils, which are coarse-loamy
- Grady and Rembert soils, which are clayey
- Lynchburg soils, which are somewhat poorly drained and have a sandy epipedon that is less than 20 inches thick
- Ocilla soils, which are somewhat poorly drained
- Osier soils, which are sandy
- Goldsboro soils, which are moderately well drained and have a sandy epipedon that is less than 20 inches thick
- Norfolk soils, which are well drained, are in the adjacent higher positions, and have a sandy epipedon that is less than 20 inches thick

Typical Pedon

Pelham loamy fine sand, frequently flooded; Wautauga Road 0.5 mile from its intersection with US Highway 27, about 150 feet north of the road; Decatur County; USGS Climax South topographic quadrangle (1974); lat. 30 degrees 45 minutes 28 seconds N. and long. 84 degrees 27 minutes 33 seconds W.

A—0 to 6 inches; gray (10YR 5/1) loamy fine sand; weak medium granular structure; very friable; many very fine roots; very strongly acid; clear smooth boundary.
Eg1—6 to 25 inches; gray (10YR 6/1) loamy fine sand; weak fine granular structure; very friable; many very fine and few fine roots; very strongly acid; clear smooth boundary.
Eg2—25 to 30 inches; gray (10YR 6/1) loamy sand; weak fine granular structure; very friable; common very fine roots; few fine prominent brownish yellow (10YR 6/6) masses of iron accumulation with diffuse boundaries; very strongly acid; clear wavy boundary.
Btg1—30 to 45 inches; light gray (10YR 6/1) sandy loam; weak medium subangular blocky structure; very friable; few very fine and fine roots; many medium prominent yellowish brown (10YR 5/8 and 5/6) masses of iron accumulation with diffuse boundaries; very strongly acid; gradual wavy boundary.
Btg2—45 to 50 inches; gray (10YR 6/1) sandy clay loam; moderate medium subangular blocky structure; friable; many coarse prominent yellowish brown (10YR 5/8 and 5/6) masses of iron accumulation with diffuse boundaries; very strongly acid; gradual wavy boundary.
Btg3—50 to 65 inches; gray (10YR 6/1) sandy clay loam; moderate medium subangular blocky structure; friable; many coarse prominent strong brown (7.5YR 5/6) and brownish yellow (10YR 6/8) masses of iron accumulation with diffuse boundaries; few fine faint light gray (10YR 7/1) iron depletions with diffuse boundaries; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: 20 to 40 inches
Content of pebbles: Less than 5 percent
Concentrations: 0 to 3 percent plinthite in some pedons
Depth to chroma of 2 or less: 2 to 8 inches
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR or 2.5Y
Value—3 or 4
Chroma—1 or 2
Texture—sand, loamy sand, or loamy fine sand

E horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Redoximorphic features—none to common in shades of brown, yellow, or gray
Texture—sand, loamy sand, or loamy fine sand

Btg horizon, upper part:
Hue—10YR to 5Y
Value—6 or 7
Chroma—1 or 2
Redoximorphic features—few to many in shades of red, brown, yellow, or gray
Texture—sandy loam or sandy clay loam

Btg horizon, lower part:
Hue—10YR to 5Y
Value—5 to 7
Chroma—1 or 2
Redoximorphic features—few to many in shades of brown, yellow, pink, or gray; or mottled in shades of red, brown, yellow, or gray
Texture—sandy clay loam or sandy clay

Rembert Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Parent material: Clayey and loamy marine sediments
Seasonal high water table: 1 foot above the surface to 1 foot below the surface, December to April
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Depressions and drainageways
Slope: 0 to 2 percent
Taxonomic class: Fine, kaolinitic, thermic Typic Endoaquults

Commonly Associated Soils

- Grady soils, which do not have a 20 percent or more decrease in clay content within a depth of 60 inches
- Lynchburg soils, which are somewhat poorly drained and have a fine-loamy subsoil
- Ocilla soils, which are somewhat poorly drained and have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Pelham soils, which have a sandy epipedon that ranges from 20 to 40 inches in thickness

Typical Pedon

Rembert sandy loam, frequently flooded; 1.2 miles east of Mount Pleasant on Jessie Brock Road from its intersection with Georgia Highway 97, about 150 feet south of the road; Decatur County; USGS Vada topographic quadrangle (1971); lat. 31 degrees 01 minute 20 seconds N. and long. 84 degrees 26 minutes 25 seconds W.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable; common fine and medium and few coarse roots; very strongly acid; clear smooth boundary.
E—9 to 12 inches; grayish brown (10YR 5/2) sandy loam; weak fine subangular blocky structure; very friable; few fine, medium, and coarse roots; very strongly acid; clear wavy boundary.
Btg1—12 to 39 inches; dark gray (10YR 4/1) clay; moderate medium subangular blocky structure; firm; few fine, medium, and coarse roots; common distinct clay films on faces of peds; few fine prominent red (2.5YR 4/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; clear wavy boundary.
Btg2—39 to 52 inches; dark gray (10YR 4/1) clay; moderate medium subangular blocky structure; firm; many prominent clay films on faces of peds; common medium prominent brownish yellow (10YR 6/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; clear wavy boundary.
BCg—52 to 65 inches; light gray (10YR 7/2) sandy clay loam; weak medium subangular blocky structure; firm; few fine prominent yellowish red (5YR 5/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; gradual wavy boundary.

Range in Characteristics

Thickness of the solum: 40 to more than 60 inches
Thickness of the sandy epipedon: Less than 20 inches
Content of pebbles: Less than 5 percent
Concentrations: Less than 5 percent
Depth to chroma of 2 or less: 4 to 6 inches
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR to 5Y
Value—2 to 5
Chroma—1 or 2
Texture—sandy loam

E horizon (where present):
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 or 2
Texture—sandy loam

Btg horizon:
Hue—10YR to 5Y
Value—4 to 7
Chroma—1 or 2
Redoximorphic features—few to many in shades of red, brown, or yellow
Texture—clay loam, sandy clay, or clay

BCg horizon:
Hue—10YR to 5Y
Value—5 to 8
Chroma—1 or 2
Redoximorphic features—none to many in shades of red, brown, or yellow
Texture—sandy clay loam

Tifton Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate in BtC horizon and moderately slow in Btv horizon
Parent material: Loamy marine sediments (fig. 15)

Depth to the seasonal high water table: 3½ to 5 feet, January through March
Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges and side slopes
Slope: 0 to 8 percent
Taxonomic class: Fine-loamy, kaolinitic, thermic Plinthic Kandiudults

Commonly Associated Soils

- Orangeburg soils, which are redder in hue than the Tifton soils and are in the higher positions
- Carnegie soils, which are clayey
- Dothan soils, which have less than 5 percent ironstone nodules in the upper part of the solum
- Fuquay soils, which have a sandy surface layer that ranges from 20 to 40 inches in thickness
- Nankin soils, which are clayey and contain less than 5 percent plinthite

Typical Pedon

Tifton loamy sand, 0 to 2 percent slopes; 9.5 miles northwest of Cairo on Georgia Highway 112 from its intersection with U.S. Highway 84, about 50 feet east of the highway; Grady County; USGS Whigham topographic quadrangle (1974); lat. 30 degrees 59 minutes 09 seconds N. and long. 84 degrees 15 minutes 25 seconds W.

Apc—0 to 8 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; about 10 percent, by volume, ironstone nodules; slightly acid; abrupt smooth boundary.
Ec—8 to 10 inches; yellowish brown (10YR 5/6) loamy sand; weak fine granular structure; very friable; about 12 percent, by volume, ironstone nodules; moderately acid; clear wavy boundary.
Btc1—10 to 22 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; about 12 percent, by volume, ironstone nodules; moderately acid; gradual wavy boundary.
Btc2—22 to 43 inches; brownish yellow (10YR 6/8) sandy clay loam; moderate medium subangular blocky structure; friable; about 8 percent, by volume, ironstone nodules; strongly acid; gradual wavy boundary.
Btv1—43 to 51 inches; brownish yellow (10YR 6/6) sandy clay loam; weak medium subangular blocky structure; friable; about 10 percent, by volume, nodular plinthite; about 1 percent, by volume, ironstone nodules; few fine faint brownish yellow (10YR 6/8) and common medium faint yellow (10YR 7/6) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; clear wavy boundary.
Btv2—51 to 65 inches; brownish yellow (10YR 6/8) sandy clay loam; weak medium subangular blocky structure; friable; about 10 percent, by volume, plinthite; few fine faint yellow (10YR 7/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; few medium prominent light gray (10YR 7/1) iron depletions with diffuse boundaries throughout; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: Less than 20 inches
Content of pebbles: Less than 5 percent
Concentrations: 5 to 25 percent ironstone nodules in the A, Apc, or Ap horizon; 5 to 30 percent in the Ec, Btc1, and Btc2 horizons; 0 to 13 percent in the Btv1, Btv2, and BC horizons; and 5 percent or more nodular plinthite
Depth to chroma of 2 or less: 36 inches or more
Reaction: Very strongly acid to moderately acid, except where lime has been applied

Ac or Apc horizon:
Hue—10YR
Value—4
Chroma—2 or 3
Texture—loamy sand

Ec horizon (where present):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—4 to 6
Texture—loamy sand or sandy loam

Btc horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—6 to 8
Redoximorphic features—none to common in shades of red or brown
Texture—sandy loam or sandy clay loam

Btv horizon:
Hue—10YR; or variegated in shades of red, brown, yellow, gray, or white
Value—5 or 6
Chroma—6 to 8
Redoximorphic features—few to many in shades of red, brown, yellow, or gray
Texture—sandy clay loam

BC horizon (where present):
Hue—variegated in shades of red, brown, yellow, or gray

Redoximorphic features—shades of red, brown, or gray
Texture—sandy clay loam

Troup Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid in the A and E horizons and moderate in the Bt horizon
Parent material: Sandy and loamy marine sediments
Depth to the seasonal high water table: More than 6 feet
Landscape: Coastal Plain
Landform: Uplands
Landform position: Broad ridges and side slopes
Slope: 0 to 12 percent
Taxonomic class: Loamy, kaolinitic, thermic Grossarenic Kandiudults

Commonly Associated Soils

- Blanton soils, which are more yellow than the Troup soils and have a seasonal high water table within a depth of 6 feet
- Lakeland soils, which are sandy to a depth of more than 80 inches and are excessively well drained
- Lucy soils, which have a sandy epipedon that ranges from 20 to 40 inches in thickness
- Orangeburg soils, which have a sandy epipedon that is less than 20 inches thick

Typical Pedon

Troup loamy sand, 1 to 5 percent slopes; 5.9 miles northwest of Bainbridge on Bethel Road from its intersection with U.S. Highway 27, about 200 feet east of the road; Decatur County; USGS Brinson topographic quadrangle (1974); lat. 30 degrees 59 minutes 38 seconds N. and long. 84 degrees 40 minutes 24 seconds W.

Ap—0 to 8 inches; brown (10YR 5/3) loamy sand; weak fine granular structure; very friable; many fine roots; very strongly acid; abrupt smooth boundary.
E1—8 to 20 inches; yellowish brown (10YR 5/4) loamy sand; weak fine granular structure; very friable; few fine roots; very strongly acid; clear smooth boundary.
E2—20 to 32 inches; strong brown (7.5YR 5/6) loamy sand; weak fine granular structure; very friable; few fine roots; very strongly acid; gradual smooth boundary.
E3—32 to 52 inches; yellowish red (5YR 5/8) loamy sand; weak fine granular structure; very friable; very strongly acid; clear wavy boundary.
Bt—52 to 80 inches; yellowish red (5YR 5/8) sandy clay loam; weak fine subangular blocky structure; very friable; very strongly acid.

Range in Characteristics

Thickness of the solum: 80 inches or more
Thickness of the sandy epipedon: 40 to 80 inches
Content of rock quartz: Less than 10 percent pebbles
Concentrations: Less than 5 percent
Depth to chroma of 2 or less: More than 6 feet
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 or 3
Texture—loamy sand

E horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—loamy fine sand, loamy sand, or sand

BE horizon (where present):
Hue—5YR or 7.5YR
Value—5 or 6
Chroma—6 to 8
Texture—sandy loam

Bt horizon:
Hue—2.5YR to 7.5YR
Value—4 to 6
Chroma—6 to 8
Texture—sandy loam or sandy clay loam

Wagram Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy marine sediments
Depth to the seasonal high water table: More than 6 feet
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and adjacent side slopes
Slope: 0 to 5 percent
Taxonomic class: Loamy, kaolinitic, thermic Arenic Kandiudults

Commonly Associated Soils

- Bonneau soils, which have mottles indicating wetness within a depth of 60 inches

- Fuquay soils, which have a layer containing 5 percent or more plinthite
- Lucy soils, which have a Bt horizon with redder hues than the Bt horizon of the Wagram soils
- Norfolk soils, which have a sandy surface layer that is less than 20 inches thick

Typical Pedon

Wagram loamy sand, 0 to 5 percent slopes; 10.7 miles south on Georgia highway 91 from its intersection with Georgia highway 37, about 0.5 mile southeast on Itchaway Plantation Road, and 50 feet north of the road; Baker County; USGS Hopeful topographic quadrangle (1971); lat. 31 degrees 12 minutes 30 seconds N. and long. 84 degrees 27 minutes 44 seconds W.

A—0 to 6 inches; grayish brown (2.5Y 5/2) loamy sand; weak fine granular structure; very friable; common fine and medium roots; slightly acid; clear smooth boundary.

E1—6 to 19 inches; light yellowish brown (10YR 6/4) loamy sand; weak fine granular structure; very friable; common fine and medium roots; strongly acid; gradual wavy boundary.

E2—19 to 28 inches; light yellowish brown (10YR 6/4) loamy sand; moderate medium granular structure; very friable; common fine and medium roots; strongly acid; gradual wavy boundary.

Bt1—28 to 34 inches; brownish yellow (10YR 6/6) sandy loam; weak fine subangular blocky structure; very friable; few fine roots; strongly acid; gradual wavy boundary.

Bt2—34 to 46 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; few fine roots; strongly acid; gradual wavy boundary.

Bt3—46 to 80 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; few fine roots; few medium distinct strong brown (7.5YR 5/8) relic iron accumulations; strongly acid.

Range in Characteristics

Thickness of the solum: 60 to 80 inches
Thickness of the sandy epipedon: 20 to 40 inches
Content of pebbles: Less than 5 percent
Concentrations: Less than 2 percent
Depth to chroma of 2 or less: More than 60 inches
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied

A or Ap horizon:
Hue—10YR, 2.5Y, or neutral
Value—4 to 6
Chroma—0 to 4
Texture—loamy sand, loamy fine sand, or sand

E horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—2 to 4
Texture—loamy sand or loamy fine sand

Bt horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—4 to 8
Relic redoximorphic features—shades of red, brown, or yellow in the lower part
Texture—sandy loam or sandy clay loam

BC horizon (where present):
Hue—7.5YR to 2.5Y; or variegated in shades red, brown, or yellow
Value—5 to 7
Chroma—1 to 8
Relic redoximorphic features—shades of red, brown, or yellow in the lower part
Texture—sandy loam

Wahee Series

Depth class: Very deep
Drainage class: Somewhat poorly
Permeability: Slow
Parent material: Clayey marine sediments
Depth to the seasonal high water table: 1 to 1 1/2 feet
Landscape: Coastal Plain
Landform: Stream terraces
Landform position: Shallow depressions
Slope: 0 to 2 percent
Taxonomic class: Fine, mixed, semiactive, thermic Aeric Endoaquults

Commonly Associated Soils

- Blanton soils, which are in the higher positions, are well drained, and have a sandy epipedon that ranges from 40 to 80 inches in thickness
- Hornsville soils, which are moderately well drained
- Grady soils, which are poorly drained and are in the lower positions

Typical Pedon

Wahee fine sandy loam, 0 to 2 percent slopes, occasionally flooded; 1.85 miles north of Bainbridge

on Georgia Highway 311 from its intersection with Georgia Highway 97, about 250 feet west of the highway; Decatur County; USGS Bainbridge topographic quadrangle (1974); lat. 30 degrees 56 minutes 32 seconds N. and long. 84 degrees 32 minutes 52 seconds W.

A—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; single grained; loose; many fine and medium roots; strongly acid; abrupt smooth boundary.

Bt1—6 to 10 inches; light yellowish brown (10YR 6/4) sandy clay loam; moderate medium subangular blocky structure; very friable; common fine and medium roots; strongly acid; gradual wavy boundary.

Bt2—10 to 18 inches; pale brown (10YR 6/3) sandy clay; moderate medium subangular blocky structure; firm; common fine and medium roots; few fine prominent light gray (10YR 7/1) irregularly shaped iron depletions with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Bt3—18 to 22 inches; pale brown (10YR 6/3) sandy clay; moderate medium subangular blocky structure; firm; few fine and common medium roots; few fine prominent red (2.5YR 5/8) irregular shaped masses of iron accumulation with diffuse boundaries; light gray (10YR 7/1) irregularly shaped iron depletions with diffuse boundaries throughout; strongly acid; gradual wavy boundary.

Btg1—22 to 28 inches; light gray (10YR 7/1) clay; moderate medium subangular blocky structure; firm; few fine roots; few fine prominent red (2.5YR 5/8) and yellow (10YR 8/8) irregular shaped masses of iron accumulation with diffuse boundaries; very strongly acid; gradual wavy boundary.

Btg2—28 to 45 inches; light gray (10YR 7/1) sandy clay; moderate medium subangular blocky structure; firm; few fine prominent light brown (7.5YR 6/4) and yellow (10YR 8/8) irregular shaped masses of iron accumulation with diffuse boundaries; very strongly acid; gradual wavy boundary.

Btg3—45 to 55 inches; light gray (10YR 7/1) sandy clay; weak medium subangular blocky structure; friable; few fine prominent light brown (7.5YR 6/4) and yellow (10YR 8/8) irregular shaped masses of iron accumulation with diffuse boundaries; very strongly acid; gradual wavy boundary.

BCg—55 to 65 inches; light gray (10YR 7/1) sandy clay loam; weak medium subangular blocky structure; friable; many fine prominent light brown (10YR 6/4) irregular shaped masses of iron accumulation with diffuse boundaries; very strongly acid.

Range in Characteristics

Thickness of the solum: 30 to more than 60 inches
Depth to chroma of 2 or less: 12 to 18 inches
Reaction: Very strongly acid to moderately acid in the surface horizon, except where lime has been applied, and extremely acid to strongly acid throughout the rest of the profile

A or Ap horizon:
- Hue—10YR, 2.5Y, or neutral
- Value—2 to 5
- Chroma—0 to 3
- Texture—fine sandy loam, sandy loam, or loamy sand

E horizon (where present):
- Hue—10YR to 5Y
- Value—5 to 7
- Chroma—2 to 4
- Texture—loamy sand or sandy loam

Bt horizon:
- Hue—10YR to 5Y
- Value—5 to 7
- Chroma—3 to 8
- Redoximorphic features—iron accumulations in shades of red, yellow, or brown and iron depletions in shades of gray or white
- Texture—clay, clay loam, or sandy clay

Btg horizon:
- Hue—10YR to 5Y or neutral
- Value—4 to 7
- Chroma—0 to 2
- Redoximorphic features—iron accumulations in shades of red, yellow, or brown and iron depletions in shades of gray or white
- Texture—clay, clay loam, or sandy clay

BCg horizon (where present):
- Hue—10YR to 5Y or neutral
- Value—5 to 7
- Chroma—0 to 2
- Redoximorphic features—iron accumulations in shades of red, yellow, or brown and iron depletions in shades of gray or white
- Texture—clay loam, sandy clay, or sandy clay loam

Formation of the Soils

Soil characteristics are determined by the physical and mineral composition of the parent material; the climate under which the parent material accumulated and has existed since accumulation; the plant and animal life on and in the soil; the relief, or lay of the land; and the length of time that the forces of soil formation have acted on the soil material (Jenny, 1941). All of these factors influence every soil, but the significance of each factor varies from place to place. In one area, one factor may dominate soil formation; in another area, a different factor may be the most important. The interrelationships among these five factors are complex and the effects of any one factor cannot be isolated and completely evaluated. It is convenient, however, to discuss each factor separately and to indicate the probable effects of each.

Parent Material

Parent material is the unconsolidated mass in which soil forms. The chemical and mineralogical composition of the soil is largely derived from the parent material. Grady County is underlain by Coastal Plain sedimentary rock (GDNR, 1976). Sandy to clayey marine sediments overlie the rock.

The Flint River Formation makes up the parent material for the upland soils in the northwestern part of Grady County. The dominant soils that formed in this material are characterized by brownish, sandy surface and subsurface layers and a brownish or reddish subsoil. Tifton, Norfolk, Fuquay, and Orangeburg soils are the main soils that formed on uplands.

The Hawthorn Formation of the Tertiary Period underlies the majority of Grady County. The Tifton, Dothan, and Fuquay soils are the main soils that formed in these materials. These soils are characterized by a predominantly yellowish brown, loamy subsoil that contains plinthite, which is a kind of iron concentration. Cowarts, Nankin, and Gritney soils also formed in material from the Hawthorn Formation. They also have a subsoil that is predominantly yellowish brown but are not as deeply developed as the Tifton, Dothan, and Fuquay soils and commonly have dense layers beneath the subsoil.

Stream alluvium is adjacent to all the streams in the survey area. The alluvium is most extensive on the flood plain along the Ochlocknee River. Soils that formed in alluvium formed in more recent sediments than soils that formed on uplands. Osier and Bibb soils formed in sandy and loamy alluvium along the Ochlocknee River and the larger creeks in the county.

Climate

The present climate of the survey area is probably similar to the climate that existed as the soils formed. The relatively high rainfall and warm temperature contribute to rapid soil formation and are the most important climatic features related to soil properties. Water from precipitation is essential in the formation of soil. Water dissolves soluble materials and is used by plants and animals. It transports material from one part of the soil to another part or from one area to another area. Soils in the survey area formed under a thermic temperature regime; that is, with a mean soil temperature at a depth of 20 inches of 59 to 72 degrees Fahrenheit. The rate of chemical reactions and other processes in the soil depends to some extent on temperature. In addition, temperature affects the type and quantity of vegetation, the amount and kind of organic matter, and the rate of decomposition of organic matter.

Plants and Animals

The role of plants, animals, and other organisms is significant in soil formation. Plants and animals increase the amounts of organic matter and nitrogen, increase or decrease the content of plant nutrients, and change soil structure and porosity. Plants recycle nutrients, accumulate organic matter, and provide food and cover for animals. Plants stabilize the surface layer so that soil-forming processes can continue. Vegetation also provides a more stable environment for soil-forming processes by protecting the soils from extremes in temperature.

The soils in the survey area formed under a succession of briars, brambles, and woody plants that yielded to pines and hardwood trees. Later, the

hardwoods suppressed most of the other plants and became the climax vegetation.

Animals rearrange soil material by roughening the surface, forming and filling channels, and shaping peds and voids. The soil is mixed by ants, wasps, worms, and spiders that make channels; by crustacea, such as crabs and crayfish; and by turtles and foxes that dig burrows. Humans affect the soil-forming process by tilling, removing natural vegetation, establishing different plants, and reducing or increasing soil fertility. Bacteria, fungi, and other microorganisms increase the rate of decomposition of organic matter and increase the release of minerals for plant growth. The net gains and losses caused by plants and animals in the soil-forming process are important in the survey area. However, the relationship between plants and animals, climate, and parent materials is very close; therefore, the soils do not differ significantly because of plants and animals.

Relief

Relief is the elevations, or inequalities, of land surface considered collectively. The color of the soil, wetness, thickness of the A horizon, content of organic matter, and plant cover are commonly related to relief. In the survey area, the most obvious effects of relief are the differences in the colors of the soils and the degree of soil wetness. Dothan and Tifton soils primarily have a yellowish brown subsoil, and Grady, Pelham, and Rains soils primarily are gray throughout the subsoil. This color difference results from a difference in relief and a corresponding difference in internal drainage. Dothan and Tifton soils are in higher areas and are better drained than the other soils; therefore, the soil material is better oxidized and the subsoil is browner. The movement of water across the surface and through the soil is controlled to a large extent by relief. Water flowing over the soil commonly carries solid particles and results in either erosion or deposition, depending on the kind of relief. More water runs off sloping areas and less water enters the soil, so the soils are drier in the steeper areas. Lower-lying areas receive the water that flows off and through the higher soils. The lower-lying areas are commonly wetter than the other areas.

Time

The length of time that soil-forming factors act on the parent material determines to a large degree the characteristics of the soil. Most of the soils in the survey area are considered mature. A mature soil is in equilibrium with the environment. It has readily recognized pedogenic horizons and a regular decrease in content of carbon with increasing depth. Some areas of Dothan and Tifton soils are on broad, stable landscapes where the soil-forming processes have been active for thousands of years. These mature soils have a thick solum and a well expressed zone of illuviation.

Osier and Bibb soils receive sediment annually from flood water. These young soils are stratified and are not old enough to have a zone of illuviation. Young soils do not have well-developed pedogenic horizons. The content of carbon decreases irregularly with increasing depth.

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Glossary

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. The normal flood plain of a stream, subject to flooding.

Breaks. The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a

processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system

include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and

relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, or shale 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above.

When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable

layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil

matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of

iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a

drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 5 percent
Moderately sloping	5 to 8 percent
Strongly sloping	8 to 12 percent
Moderately steep	12 to 25 percent
Steep	25 to 35 percent
Very steep	35 percent and higher

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only

when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

[Recorded in the period 1961-90 at Camilla, Georgia]

Month	Temperature						Precipitation			
				2 years in 10 will have--				2 years in 10 will have--		
	Average daily maximum	Average daily minimum	Average	Maximum temp. higher than--	Minimum temp. lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	*°F*	*°F*	*°F*	*°F*	*Units*	*In*	*In*	*In*		*In*
January----	61.4	38.4	49.9	80	13	124	5.19	2.89	7.23	7	0.0
February---	65.5	40.9	53.2	83	20	155	4.96	3.03	6.70	6	.1
March------	73.5	47.7	60.6	88	27	343	5.73	3.42	7.80	6	.0
April------	80.9	53.7	67.3	93	36	518	3.94	1.23	6.15	4	.0
May--------	87.1	61.3	74.2	98	46	751	4.24	1.52	6.50	5	.0
June-------	91.6	67.9	79.8	101	55	888	5.27	2.67	7.55	6	.0
July-------	93.0	70.4	81.7	103	61	983	5.94	3.17	8.38	8	.0
August-----	92.5	70.4	81.5	100	61	975	4.78	2.92	6.46	7	.0
September--	89.0	66.5	77.8	98	49	833	2.99	1.08	4.57	4	.0
October----	81.2	54.9	68.0	94	33	558	2.14	0.85	3.81	3	.0
November---	71.9	46.8	59.4	86	25	302	3.00	1.72	4.14	4	.0
December---	64.3	41.0	52.6	82	17	167	4.34	2.66	5.85	6	.0
Yearly:											
Average---	79.3	55.0	67.2	---	---	---	---	---	---	---	---
Extreme---	107	2	---	103	11	---	---	---	---	---	---
Total-----	---	---	---	---	---	6,598	52.53	44.86	59.91	66	.1

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

[Recorded in the period 1961-90 at Camilla, Georgia]

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Feb. 24	Mar. 18	Mar. 30
2 years in 10 later than--	Feb. 17	Mar. 10	Mar. 23
5 years in 10 later than--	Feb. 3	Feb. 23	Mar. 10
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 22	Nov. 11	Oct. 26
2 years in 10 earlier than--	Dec. 2	Nov. 18	Nov. 1
5 years in 10 earlier than--	Dec. 20	Dec. 3	Nov. 14

Table 3.--Growing Season

[Recorded in the period 1961-90 at Camilla, Georgia]

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	*Days*	*Days*
9 years in 10	279	244	220
8 years in 10	294	257	230
5 years in 10	321	283	248
2 years in 10	349	308	267
1 year in 10	363	321	277

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Map unit name	Acres	Percent
BgB	Bigbee loamy fine sand, 0 to 5 percent slopes, rarely flooded	368	0.1
BlB	Blanton loamy sand, 0 to 5 percent slopes	6,864	2.3
BlD	Blanton loamy sand, 5 to 12 percent slopes	1,297	0.4
BoB	Bonneau loamy sand, 0 to 5 percent slopes	13,651	4.6
BoD	Bonneau loamy sand, 5 to 12 percent slopes	1,526	0.5
CaB	Carnegie gravelly sandy loam, 2 to 5 percent slopes	1,929	0.7
CaC	Carnegie gravelly sandy loam, 5 to 8 percent slopes	7,782	2.6
CgC	Cowarts-Gritney complex, 5 to 8 percent slopes	4,606	1.6
CgD	Cowarts-Gritney complex, 8 to 12 percent slopes	1,300	0.4
DoA	Dothan loamy sand, 0 to 2 percent slopes	5,521	1.9
DoB	Dothan loamy sand, 2 to 5 percent slopes	16,000	5.4
FeA	Faceville sandy loam, 0 to 2 percent slopes	1,354	0.5
FeB	Faceville sandy loam, 2 to 5 percent slopes	16,538	5.6
FeC	Faceville sandy loam, 5 to 8 percent slopes	3,395	1.2
FuB	Fuquay loamy sand, 0 to 5 percent slopes	3,958	1.3
GoA	Goldsboro loamy sand, 0 to 2 percent slopes	7,180	2.4
GrA	Grady sandy loam, ponded	5,112	1.7
HvA	Hornsville fine sandy loam, 0 to 2 percent slopes	41	*
LkB	Lakeland sand, 0 to 5 percent slopes	94	*
LkD	Lakeland sand, 5 to 12 percent slopes	88	*
LmB	Lucy loamy sand, 0 to 5 percent slopes	2,194	0.7
LmC	Lucy loamy sand, 5 to 8 percent slopes	858	0.3
LnA	Lynchburg fine sandy loam, 0 to 2 percent slopes	4,498	1.5
NaB	Nankin loamy fine sand, 2 to 5 percent slopes	8,920	3.0
NcC	Nankin-Cowarts complex, 5 to 8 percent slopes	26,250	8.9
NcD	Nankin-Cowarts complex, 8 to 12 percent slopes	6,133	2.1
NoA	Norfolk loamy sand, 0 to 2 percent slopes	3,262	1.1
NoB	Norfolk loamy sand, 2 to 5 percent slopes	4,604	1.6
NoC	Norfolk loamy sand, 5 to 8 percent slopes	150	*
OcA	Ocilla loamy fine sand, 0 to 2 percent slopes	7,505	2.6
OeA	Orangeburg loamy sand, 0 to 2 percent slopes	474	0.2
OeB	Orangeburg loamy sand, 2 to 5 percent slopes	8,487	2.9
OeC	Orangeburg loamy sand, 5 to 8 percent slopes	4,409	1.5
OeD	Orangeburg loamy sand, 8 to 12 percent slopes	483	0.2
OSA	Osier and Bibb soils, frequently flooded	35,750	12.1
PeA	Pelham loamy fine sand, frequently flooded	11,285	3.8
ReA	Rembert sandy loam, frequently flooded	1,050	0.4
TfA	Tifton loamy sand, 0 to 2 percent slopes	15,600	5.3
TfB	Tifton loamy sand, 2 to 5 percent slopes	46,490	15.8
TfC	Tifton loamy sand, 5 to 8 percent slopes	936	0.3
TrB	Troup loamy sand, 0 to 5 percent slopes	341	0.1
TrD	Troup loamy sand, 5 to 12 percent slopes	150	*
Ud	Udorthents, loamy	267	*
Up	Udorthents-Pits complex	115	*
UtC	Urban land-Tifton complex, 0 to 8 percent slopes	1,432	0.5
W	Water	3,787	1.3
WaB	Wagram loamy sand, 0 to 5 percent slopes	81	*
WhA	Wahee fine sandy loam, 0 to 2 percent slopes, occasionally flooded	185	*
	Total	294,300	100.0

* Less than 0.1 percent.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture

[Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Map symbol and soil name	Land capability		Corn		Cotton lint		Improved bermudagrass		Peanuts		Soybeans	
	N	I	N	I	N	I	N	I	N	I	N	I
			Bu	*Bu*	*Lbs*	*Lbs*	*AUM*	*AUM*	*Lbs*	*Lbs*	*Bu*	*Bu*
BgB:												
Bigbee	3s	---	50	150	500	600	10	25	---	---	25	45
BlB:												
Blanton	3s	---	60	150	500	600	8	10	2,200	3,200	25	45
BlD:												
Blanton	4s	---	50	130	500	600	7.5	8.5	2,000	3,000	20	40
BoB:												
Bonneau	2s	---	85	180	700	900	8.5	10.5	2,900	3,500	30	50
BoD:												
Bonneau	3s	---	80	175	600	800	8	10	2,300	3,200	25	40
CaB:												
Carnegie	2e	---	75	105	750	850	9	10	3,200	4,300	35	35
CaC:												
Carnegie	3e	---	65	90	500	600	6.5	8.5	3,200	3,800	30	35
CgC:												
Cowarts	3e	---	70	120	600	700	7.5	12	1,800	2,200	25	35
Gritney	4e	---	80	150	550	650	5	7	2,600	3,000	24	34
CgD:												
Cowarts	6e	---	---	---	---	---	7	12	---	---	---	---
Gritney	6e	---	---	---	---	---	4	7	---	---	---	---
DoA:												
Dothan	1	---	120	190	900	1,100	10.5	14	3,800	5,000	40	50
DoB:												
Dothan	2e	---	120	190	900	1,100	10.5	14	3,600	5,000	35	50
FeA:												
Faceville	1	---	115	185	875	1,050	10	12.5	4,000	4,750	45	50

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability		Corn		Cotton lint		Improved bermudagrass		Peanuts		Soybeans	
	N	I	N	I	N	I	N	I	N	I	N	I
			Bu	*Bu*	*Lbs*	*Lbs*	*AUM*	*AUM*	*Lbs*	*Lbs*	*Bu*	*Bu*
FeB:												
Faceville	2e	---	115	185	875	1,050	10	12.5	4,000	4,750	45	50
FeC:												
Faceville	3e	---	90	135	650	700	9.5	12	3,000	3,800	30	40
FuB:												
Fuquay	2s	---	85	180	650	800	8.5	10.5	2,900	3,500	30	45
GoA:												
Goldsboro	2w	---	125	200	700	7,200	10	12	3,600	3,900	42	55
GrA:												
Grady	5w	---	---	---	---	---	---	---	---	---	---	---
HvA:												
Hornsville	2w	---	100	160	600	700	12	13	3,300	3,800	40	50
LkB:												
Lakeland	4s	---	55	160	---	---	7	9.5	2,000	3,500	20	40
LkD:												
Lakeland	6s	---	---	---	---	---	6.5	8.5	---	---	---	---
LmB:												
Lucy	2s	---	80	180	650	800	8	10.5	3,000	4,500	33	50
LmC:												
Lucy	3s	---	70	160	600	750	7.5	10.5	2,500	3,750	25	40
LnA:												
Lynchburg	2w	---	115	190	675	775	8	10	---	---	45	55
NaB:												
Nankin	2e	---	75	150	650	750	9	12	2,200	3,000	30	40
NcC:												
Nankin	4e	---	55	95	600	700	7	9	1,800	2,300	20	35
Cowarts	3e	---	70	120	600	700	6.5	8.5	1,800	2,200	25	35
NcD:												
Nankin	6e	---	---	---	---	---	5	7	---	---	---	---
Cowarts	6e	---	---	---	---	---	6.5	7.5	---	---	---	---

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability		Corn		Cotton lint		Improved bermudagrass		Peanuts		Soybeans	
	N	I	N	I	N	I	N	I	N	I	N	I
			Bu	*Bu*	*Lbs*	*Lbs*	*AUM*	*AUM*	*Lbs*	*Lbs*	*Bu*	*Bu*
NoA:												
Norfolk	1	---	110	190	700	1,000	9	12	4,000	5,400	40	55
NoB:												
Norfolk	2e	---	100	190	650	1,000	9	12	3,700	5,400	35	55
NoC:												
Norfolk	3e	---	90	150	600	900	8	10	3,300	4,300	30	40
OcA:												
Ocilla	3w	---	75	120	600	700	8.5	10.5	2,200	2,900	35	40
OeA:												
Orangeburg	1	---	120	190	900	1,100	10.5	14	4,000	4,900	45	55
OeB:												
Orangeburg	2e	---	120	190	900	1,100	10.5	14	4,000	4,900	45	55
OeC:												
Orangeburg	3e	---	95	150	800	950	10	12.5	3,200	4,300	35	40
OeD:												
Orangeburg	4e	---	85	135	650	800	9	12	2,800	3,500	30	35
OSA:												
Osier	5w	---	---	---	---	---	---	---	---	---	---	---
Bibb	5w	---	---	---	---	---	---	---	---	---	---	---
PeA:												
Pelham	5w	---	---	---	---	---	---	---	---	---	---	---
ReA:												
Rembert	6w	---	---	---	---	---	---	---	---	---	---	---
TfA:												
Tifton	1	---	115	185	950	1,150	10.5	14	3,800	5,100	46	55
TfB:												
Tifton	2e	---	115	185	950	1,150	10.5	14	3,800	5,100	46	55
TfC:												
Tifton	3e	---	80	145	650	900	9	12	3,000	4,800	34	45

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability		Corn		Cotton lint		Improved bermudagrass		Peanuts		Soybeans	
	N	I	N	I	N	I	N	I	N	I	N	I
			Bu	*Bu*	*Lbs*	*Lbs*	*AUM*	*AUM*	*Lbs*	*Lbs*	*Bu*	*Bu*
TrB:												
Troup	3s	---	60	160	500	600	7.5	9.5	2,200	3,850	25	45
TrD:												
Troup	6s	---	---	---	---	---	6.5	8.5	---	---	---	---
Ud:												
Udorthents, loamy.												
Up:												
Udorthents.												
Pits.												
UtC:												
Urban land.												
Tifton	2e	---	115	185	950	1,150	10.5	14	3,800	5,100	46	55
WaB:												
Wagram	2s	---	75	175	550	650	7.5	9.5	2,900	4,350	25	155
WhA:												
Wahee	2w	---	110	175	---	---	---	---	---	---	45	55

Table 6.--Prime Farmland

[Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland]

Map symbol	Soil name
CaB	Carnegie gravelly sandy loam, 2 to 5 percent slopes
CaC	Carnegie gravelly sandy loam, 5 to 8 percent slopes
DoA	Dothan loamy sand, 0 to 2 percent slopes
DoB	Dothan loamy sand, 2 to 5 percent slopes
FeA	Faceville sandy loam, 0 to 2 percent slopes
FeB	Faceville sandy loam, 2 to 5 percent slopes
FeC	Faceville sandy loam, 5 to 8 percent slopes
GoA	Goldsboro loamy sand, 0 to 2 percent slopes
HvA	Hornsville fine sandy loam, 0 to 2 percent slopes
NaB	Nankin loamy fine sand, 2 to 5 percent slopes
NcC	Nankin-Cowarts complex, 5 to 8 percent slopes
NoA	Norfolk loamy sand, 0 to 2 percent slopes
NoB	Norfolk loamy sand, 2 to 5 percent slopes
NoC	Norfolk loamy sand, 5 to 8 percent slopes
OeA	Orangeburg loamy sand, 0 to 2 percent slopes
OeB	Orangeburg loamy sand, 2 to 5 percent slopes
OeC	Orangeburg loamy sand, 5 to 8 percent slopes
TfA	Tifton loamy sand, 0 to 2 percent slopes
TfB	Tifton loamy sand, 2 to 5 percent slopes
TfC	Tifton loamy sand, 5 to 8 percent slopes

Table 7.--Hydric Soils List

Map symbol and map unit name	Component	Hydric	Hydric soils criteria				Acres
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	
BgB:							
Bigbee loamy fine sand, 0 to 5 percent slopes, rarely flooded	Bigbee	No	---	---	---	---	294
	Bibb	Yes	2B3,4	Yes	Yes	No	18
	Osier	Yes	2B2,4	Yes	Yes	No	18
	Osier	Yes	2B2,4	Yes	Yes	No	18
BlB:							
Blanton loamy sand, 0 to 5 percent slopes	Blanton	No	---	---	---	---	5,491
BlD:							
Blanton loamy sand, 5 to 12 percent slopes	Blanton	No	---	---	---	---	973
BoB:							
Bonneau loamy sand, 0 to 5 percent slopes	Bonneau	No	---	---	---	---	10,921
BoD:							
Bonneau loamy sand, 5 to 12 percent slopes	Bonneau	No	---	---	---	---	1,144
CaB:							
Carnegie gravelly sandy loam, 2 to 5 percent slopes	Carnegie	No	---	---	---	---	1,543
CaC:							
Carnegie gravelly sandy loam, 5 to 8 percent slopes	Carnegie	No	---	---	---	---	6,226
CgC:							
Cowarts-Gritney complex, 5 to 8 percent slopes	Cowarts	No	---	---	---	---	1,842
	Gritney	No	---	---	---	---	1,842
CgD:							
Cowarts-Gritney complex, 8 to 12 percent slopes	Cowarts	No	---	---	---	---	520
	Gritney	No	---	---	---	---	520
DoA:							
Dothan loamy sand, 0 to 2 percent slopes	Dothan	No	---	---	---	---	4,417
DoB:							
Dothan loamy sand, 2 to 5 percent slopes	Dothan	No	---	---	---	---	12,800
FeA:							
Faceville sandy loam, 0 to 2 percent slopes	Faceville	No	---	---	---	---	1,151
FeB:							
Faceville sandy loam, 2 to 5 percent slopes	Faceville	No	---	---	---	---	14,057
FeC:							
Faceville sandy loam, 5 to 8 percent slopes	Faceville	No	---	---	---	---	2,886

Table 7.--Hydric Soils List--Continued

Map symbol and map unit name	Component	Hydric	Hydric soils criteria				Acres
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	
FuB:							
Fuquay loamy sand, 0 to 5 percent slopes	Fuquay	No	---	---	---	---	3,166
GoA:							
Goldsboro loamy sand, 0 to 2 percent slopes	Goldsboro	No	---	---	---	---	5,744
GrA:							
Grady sandy loam, ponded	Grady	Yes	3,2B3	Yes	No	Yes	4,090
HvA:							
Hornsville fine sandy loam, 0 to 2 percent slopes	Hornsville	No	---	---	---	---	33
LkB:							
Lakeland sand, 0 to 5 percent slopes	Lakeland	No	---	---	---	---	80
LkD:							
Lakeland sand, 5 to 12 percent slopes	Lakeland	No	---	---	---	---	70
LmB:							
Lucy loamy sand, 0 to 5 percent slopes	Lucy	No	---	---	---	---	1,755
LmC:							
Lucy loamy sand, 5 to 8 percent slopes	Lucy	No	---	---	---	---	644
LnA:							
Lynchburg fine sandy loam, 0 to 2 percent slopes	Lynchburg	No	---	---	---	---	4,048
	Grady	Yes	2B3,3	Yes	No	Yes	225
	Pelham	Yes	2B2	Yes	No	No	225
NaB:							
Nankin loamy fine sand, 2 to 5 percent slopes	Nankin	No	---	---	---	---	7,136
NcC:							
Nankin-Cowarts complex, 5 to 8 percent slopes	Nankin	No	---	---	---	---	10,500
	Cowarts	No	---	---	---	---	9,188
NcD:							
Nankin-Cowarts complex, 8 to 12 percent slopes	Nankin	No	---	---	---	---	2,453
	Cowarts	No	---	---	---	---	2,147
NoA:							
Norfolk loamy sand, 0 to 2 percent slopes	Norfolk	No	---	---	---	---	2,610
NoB:							
Norfolk loamy sand, 2 to 5 percent slopes	Norfolk	No	---	---	---	---	3,683

Table 7.--Hydric Soils List--Continued

Map symbol and map unit name	Component	Hydric	Hydric soils criteria				Acres
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	
NoC:							
Norfolk loamy sand, 5 to 8 percent slopes	Norfolk	No	---	---	---	---	112
OcA:							
Ocilla loamy fine sand, 0 to 2 percent slopes	Ocilla	No	---	---	---	---	6,004
	Bibb	Yes	4,2B3	Yes	Yes	No	375
	Osier	Yes	4,2B2	Yes	Yes	No	375
	Pelham	Yes	2B2	Yes	No	No	375
OeA:							
Orangeburg loamy sand, 0 to 2 percent slopes	Orangeburg	No	---	---	---	---	427
OeB:							
Orangeburg loamy sand, 2 to 5 percent slopes	Orangeburg	No	---	---	---	---	7,214
OeC:							
Orangeburg loamy sand, 5 to 8 percent slopes	Orangeburg	No	---	---	---	---	3,748
OeD:							
Orangeburg loamy sand, 8 to 12 percent slopes	Orangeburg	No	---	---	---	---	386
OSA:							
Osier and Bibb soils, frequently flooded	Osier	Yes	2B2,4	Yes	Yes	No	17,875
	Bibb	Yes	2B3,4	Yes	Yes	No	10,725
PeA:							
Pelham loamy fine sand, frequently flooded	Pelham	Yes	2B2	Yes	No	No	9,028
ReA:							
Rembert sandy loam, frequently flooded	Rembert	Yes	2B3,3	Yes	No	Yes	840
TfA:							
Tifton loamy sand, 0 to 2 percent slopes	Tifton	No	---	---	---	---	12,480
TfB:							
Tifton loamy sand, 2 to 5 percent slopes	Tifton	No	---	---	---	---	37,192
TfC:							
Tifton loamy sand, 5 to 8 percent slopes	Tifton	No	---	---	---	---	702
TrB:							
Troup loamy sand, 0 to 5 percent slopes	Troup	No	---	---	---	---	273
TrD:							
Troup loamy sand, 5 to 12 percent slopes	Troup	No	---	---	---	---	120

Table 7.--Hydric Soils List--Continued

Map symbol and map unit name	Component	Hydric	Hydric soils criteria				Acres
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	
Ud:							
Udorthents, loamy	Udorthents, loamy	Unranked	---	---	---	---	267
Up:							
Udorthents-Pits complex	Udorthents	Unranked	---	---	---	---	109
	Pits	---	---	---	---	---	6
UtC:							
Urban land-Tifton complex, 0 to 8 percent slopes	Urban land	Unranked	---	---	---	---	644
	Tifton	No	---	---	---	---	501
WaB:							
Wagram loamy sand, 0 to 5 percent slopes	Wagram	No	---	---	---	---	57
WhA:							
Wahee fine sandy loam, 0 to 2 percent slopes, occasionally flooded	Wahee	No	---	---	---	---	148

Table 8.--Forest Productivity and Seedling Mortality

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Potential for seedling mortality		Potential productivity			Trees to manage
	Rating class and limiting features	Value	Common trees	Site index	Volume of wood fiber	
					cu ft/ac	
BgB:						
Bigbee	Low		Loblolly pine	88	129	Loblolly pine
BlB:						
Blanton	Low		Bluejack oak	---	---	Loblolly pine,
			Live oak	---	---	longleaf pine,
			Loblolly pine	85	114	slash pine
			Longleaf pine	70	86	
			Slash pine	90	157	
			Southern red oak	---	---	
			Turkey oak	---	---	
BlD:						
Blanton	Low		Bluejack oak	---	---	Loblolly pine,
			Live oak	---	---	longleaf pine,
			Loblolly pine	85	114	slash pine
			Longleaf pine	70	86	
			Slash pine	90	157	
			Southern red oak	---	---	
			Turkey oak	---	---	
BoB:						
Bonneau	Low		Hickory	---	---	Loblolly pine,
			Loblolly pine	95	143	longleaf pine
			Longleaf pine	75	86	
			White oak	---	---	
BoD:						
Bonneau	Low		Hickory	---	---	Loblolly pine,
			Loblolly pine	95	143	longleaf pine
			Longleaf pine	75	86	
			White oak	---	---	
CaB:						
Carnegie	Low		Loblolly pine	86	129	Loblolly pine,
			Longleaf pine	72	86	slash pine
			Slash pine	86	157	
CaC:						
Carnegie	Low		Loblolly pine	86	129	Loblolly pine,
			Longleaf pine	72	86	slash pine
			Slash pine	86	157	
CgC:						
Cowarts	Low		Loblolly pine	86	129	Loblolly pine,
			Longleaf pine	67	72	longleaf pine,
			Slash pine	86	157	slash pine
Gritney	Low		Loblolly pine	85	114	Loblolly pine
			Southern red oak	---	---	
			Sweetgum	---	---	
			White oak	---	---	
			Yellow-poplar	---	---	

Table 8.--Forest Productivity and Seedling Mortality--Continued

Map symbol and soil name	Potential for seedling mortality		Potential productivity			Trees to manage
	Rating class and limiting features	Value	Common trees	Site index	Volume of wood fiber	
					cu ft/ac	
CgD:						
Cowarts	Low		Loblolly pine	86	129	Loblolly pine,
			Longleaf pine	67	72	longleaf pine,
			Slash pine	86	157	slash pine
Gritney	Low		Loblolly pine	85	114	Loblolly pine
			Southern red oak	---	---	
			Sweetgum	---	---	
			White oak	---	---	
			Yellow-poplar	---	---	
DoA:						
Dothan	Low		Hickory	---	---	Loblolly pine,
			Loblolly pine	88	129	longleaf pine,
			Longleaf pine	84	114	slash pine
			Slash pine	92	172	
			Water oak	---	---	
DoB:						
Dothan	Low		Hickory	---	---	Loblolly pine,
			Loblolly pine	88	129	longleaf pine,
			Longleaf pine	84	114	slash pine
			Slash pine	92	172	
			Water oak	---	---	
FeA:						
Faceville	Low		Loblolly pine	82	114	Loblolly pine,
			Longleaf pine	65	72	slash pine
			Slash pine	80	143	
FeB:						
Faceville	Low		Loblolly pine	82	114	Loblolly pine,
			Longleaf pine	65	72	slash pine
			Slash pine	80	143	
FeC:						
Faceville	Low		Loblolly pine	82	114	Loblolly pine,
			Longleaf pine	65	72	slash pine
			Slash pine	80	143	
FuB:						
Fuquay	Low		Loblolly pine	85	114	Loblolly pine,
			Longleaf pine	77	100	longleaf pine
			Slash pine	93	172	
GoA:						
Goldsboro	Low		Loblolly pine	90	129	Loblolly pine,
			Longleaf pine	73	86	slash pine
			Red maple	---	---	
			Slash pine	94	172	
			Southern red oak	---	---	
			Sweetgum	---	---	
			Water oak	---	---	
			White oak	---	---	
			Yellow-poplar	---	---	

Table 8.--Forest Productivity and Seedling Mortality--Continued

Map symbol and soil name	Potential for seedling mortality		Potential productivity			Trees to manage
	Rating class and limiting features	Value	Common trees	Site index	Volume of wood fiber	
					cu ft/ac	
GrA:						
Grady	High Wetness	1.00	Baldcypress	65	43	American sycamore, water tupelo
			Water oak	65	57	
			Water tupelo	68	86	
HvA:						
Hornsville	Low		Loblolly pine	90	129	Loblolly pine, slash pine, yellow-poplar
			Slash pine	90	157	
			Sweetgum	90	100	
LkB:						
Lakeland	Low		Blackjack oak	---	---	Loblolly pine, longleaf pine, slash pine
			Loblolly pine	75	100	
			Longleaf pine	60	57	
			Post oak	---	---	
			Slash pine	75	129	
			Turkey oak	---	---	
LkD:						
Lakeland	Low		Blackjack oak	---	---	Loblolly pine, longleaf pine, slash pine
			Loblolly pine	75	100	
			Longleaf pine	60	57	
			Post oak	---	---	
			Slash pine	75	129	
			Turkey oak	---	---	
LmB:						
Lucy	Low		Loblolly pine	80	114	Loblolly pine, longleaf pine, slash pine
			Longleaf pine	70	86	
			Slash pine	84	157	
LmC:						
Lucy	Low		Loblolly pine	80	114	Loblolly pine, longleaf pine, slash pine
			Longleaf pine	70	86	
			Slash pine	84	157	
LnA:						
Lynchburg	High Wetness	1.00	Blackgum	---	---	American sycamore, loblolly pine, sweetgum
			Loblolly pine	86	129	
			Longleaf pine	74	86	
			Southern red oak	---	---	
			Sweetgum	90	100	
			White oak	---	---	
			Yellow-poplar	92	86	
NaB:						
Nankin	Low		Loblolly pine	80	114	Loblolly pine, slash pine
			Longleaf pine	70	86	
			Slash pine	80	143	
NcC:						
Nankin	Low		Loblolly pine	80	114	Loblolly pine, slash pine
			Longleaf pine	70	86	
			Slash pine	80	143	
Cowarts	Low		Loblolly pine	86	129	Loblolly pine, longleaf pine, slash pine
			Longleaf pine	67	72	
			Slash pine	86	157	

Table 8.--Forest Productivity and Seedling Mortality--Continued

Map symbol and soil name	Potential for seedling mortality		Potential productivity			Trees to manage
	Rating class and limiting features	Value	Common trees	Site index	Volume of wood fiber	
					cu ft/ac	
NcD:						
Nankin	Low		Loblolly pine	80	114	Loblolly pine,
			Longleaf pine	70	86	slash pine
			Slash pine	80	143	
Cowarts	Low		Loblolly pine	86	129	Loblolly pine,
			Longleaf pine	67	72	longleaf pine,
			Slash pine	86	157	slash pine
NoA:						
Norfolk	Low		Hickory	---	---	Loblolly pine,
			Loblolly pine	84	114	longleaf pine,
			Longleaf pine	77	100	slash pine
			Slash pine	78	143	
			White oak	---	---	
			Yellow-poplar	---	---	
NoB:						
Norfolk	Low		Hickory	---	---	Loblolly pine,
			Loblolly pine	84	114	longleaf pine,
			Longleaf pine	77	100	slash pine
			Slash pine	78	143	
			White oak	---	---	
			Yellow-poplar	---	---	
NoC:						
Norfolk	Low		Hickory	---	---	Loblolly pine,
			Loblolly pine	84	114	longleaf pine,
			Longleaf pine	77	100	slash pine
			Slash pine	78	143	
			White oak	---	---	
			Yellow-poplar	---	---	
OcA:						
Ocilla	Low		Loblolly pine	85	114	Loblolly pine,
			Longleaf pine	77	100	slash pine
			Slash pine	90	157	
OeA:						
Orangeburg	Low		Loblolly pine	80	114	Loblolly pine,
			Longleaf pine	77	100	slash pine
			Slash pine	86	157	
OeB:						
Orangeburg	Low		Loblolly pine	80	114	loblolly pine,
			Longleaf pine	77	100	slash pine
			Slash pine	86	157	
OeC:						
Orangeburg	Low		Loblolly pine	80	114	Loblolly pine,
			Longleaf pine	77	100	slash pine
			Slash pine	86	157	
OeD:						
Orangeburg	Low		Loblolly pine	80	114	Loblolly pine,
			Longleaf pine	77	100	slash pine
			Slash pine	86	157	

Table 8.--Forest Productivity and Seedling Mortality--Continued

Map symbol and soil name	Potential for seedling mortality		Potential productivity			Trees to manage
	Rating class and limiting features	Value	Common trees	Site index	Volume of wood fiber	
					cu ft/ac	
OSA:						
Osier	High		Loblolly pine	87	129	Loblolly pine,
	Wetness	1.00	Longleaf pine	69	72	slash pine
			Slash pine	85	157	
Bibb	High		Atlantic white cedar	---	---	Eastern
	Wetness	1.00	Blackgum	---	---	cottonwood,
			Loblolly pine	100	157	sweetgum,
			Sweetgum	90	100	yellow-poplar
			Water oak	90	86	
			Yellow-poplar	---	---	
PeA:						
Pelham	High		Blackgum	80	114	Loblolly pine,
	Wetness	1.00	Loblolly pine	90	129	slash pine
			Longleaf pine	80	100	
			Slash pine	90	157	
			Sweetgum	80	86	
			Water oak	80	72	
ReA:						
Rembert	High		Baldcypress	60	---	Baldcypress,
	Wetness	1.00	Loblolly pine	90	---	eastern
			Sweetgum	90	100	cottonwood, water
			Water tupelo	60	---	tupelo
TfA:						
Tifton	Low		Loblolly pine	86	129	Loblolly pine,
			Longleaf pine	72	86	longleaf pine,
			Slash pine	86	157	slash pine
TfB:						
Tifton	Low		Loblolly pine	86	129	Loblolly pine,
			Longleaf pine	72	86	longleaf pine,
			Slash pine	86	157	slash pine
TfC:						
Tifton	Low		Loblolly pine	86	129	Loblolly pine,
			Longleaf pine	72	86	longleaf pine,
			Slash pine	86	157	slash pine
TrB:						
Troup	Low		Loblolly pine	80	114	Loblolly pine,
			Longleaf pine	76	86	longleaf pine,
			Slash pine	85	157	slash pine
TrD:						
Troup	Low		Loblolly pine	80	114	Loblolly pine,
			Longleaf pine	76	86	longleaf pine,
			Slash pine	85	157	slash pine
Ud:						
Udorthents, loamy	Not rated		---	---	---	---
Up:						
Udorthents	Not rated		---	---	---	---
Pits	Not rated		---	---	---	---

Table 8.--Forest Productivity and Seedling Mortality--Continued

Map symbol and soil name	Potential for seedling mortality		Potential productivity			Trees to manage
	Rating class and limiting features	Value	Common trees	Site index	Volume of wood fiber	
					cu ft/ac	
UtC:						
Urban land	Not rated		---	---	---	---
Tifton	Low		Loblolly pine	86	129	Loblolly pine, slash pine
			Longleaf pine	72	86	
			Slash pine	86	157	
WaB:						
Wagram	Low		Loblolly pine	81	114	Loblolly pine, longleaf pine, slash pine
			Longleaf pine	72	86	
			Slash pine	80	143	
WhA:						
Wahee	High		Blackgum	---	---	Loblolly pine, slash pine
	Wetness	1.00	Loblolly pine	86	129	
			Slash pine	86	157	
			Southern red oak	---	---	
			Swamp chestnut oak	---	---	
			Sweetgum	90	100	
			Water oak	---	---	
			Willow oak	---	---	

Table 9a.--Forestland Management

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.1 to 1.0. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Suitability for log landings		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BgB:						
Bigbee	Well suited		Slight		Well suited	
BlB:						
Blanton	Well suited		Slight		Well suited	
BlD:						
Blanton	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
BoB:						
Bonneau	Well suited		Slight		Well suited	
BoD:						
Bonneau	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
CaB:						
Carnegie	Well suited		Moderate		Well suited	
			Slope/erodibility	0.50		
CaC:						
Carnegie	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
CgC:						
Cowarts	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
Gritney	Moderately suited		Moderate		Moderately suited	
	Sandiness	0.50	Slope/erodibility	0.50	Sandiness	0.50
	Slope	0.50			Slope	0.50
CgD:						
Cowarts	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
Gritney	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
	Sandiness	0.50			Sandiness	0.50
DoA:						
Dothan	Well suited		Slight		Well suited	
DoB:						
Dothan	Well suited		Slight		Well suited	
FeA:						
Faceville	Well suited		Slight		Well suited	
FeB:						
Faceville	Well suited		Moderate		Well suited	
			Slope/erodibility	0.50		

Table 9a.--Forestland Management--Continued

Map symbol and soil name	Suitability for log landings		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FeC:						
Faceville	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
FuB:						
Fuquay	Well suited		Slight		Well suited	
GoA:						
Goldsboro	Well suited		Slight		Well suited	
GrA:						
Grady	Poorly suited		Slight		Poorly suited	
	Ponding	1.00			Ponding	1.00
	Wetness	1.00			Wetness	1.00
HvA:						
Hornsville	Well suited		Slight		Well suited	
LkB:						
Lakeland	Moderately suited		Slight		Moderately suited	
	Sandiness	0.50			Sandiness	0.50
LkD:						
Lakeland	Moderately suited		Moderate		Moderately suited	
	Sandiness	0.50	Slope/erodibility	0.50	Sandiness	0.50
	Slope	0.50			Slope	0.50
LmB:						
Lucy	Well suited		Slight		Well suited	
LmC:						
Lucy	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
LnA:						
Lynchburg	Moderately suited		Slight		Moderately suited	
	Wetness	0.50			Wetness	0.50
NaB:						
Nankin	Well suited		Moderate		Well suited	
			Slope/erodibility	0.50		
NcC:						
Nankin	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
Cowarts	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
NcD:						
Nankin	Moderately suited		Severe		Moderately suited	
	Slope	0.50	Slope/erodibility	0.95	Slope	0.50
Cowarts	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
NoA:						
Norfolk	Well suited		Slight		Well suited	
NoB:						
Norfolk	Well suited		Slight		Well suited	

Table 9a.--Forestland Management--Continued

Map symbol and soil name	Suitability for log landings		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NoC:						
Norfolk	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
OcA:						
Ocilla	Moderately suited		Slight		Moderately suited	
	Wetness	0.50			Wetness	0.50
OeA:						
Orangeburg	Well suited		Slight		Well suited	
OeB:						
Orangeburg	Well suited		Slight		Well suited	
OeC:						
Orangeburg	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
OeD:						
Orangeburg	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
OSA:						
Osier	Poorly suited		Slight		Poorly suited	
	Flooding	1.00			Flooding	1.00
	Wetness	1.00			Wetness	1.00
Bibb	Poorly suited		Slight		Poorly suited	
	Flooding	1.00			Flooding	1.00
	Wetness	1.00			Wetness	1.00
PeA:						
Pelham	Poorly suited		Slight		Poorly suited	
	Flooding	1.00			Flooding	1.00
	Wetness	1.00			Wetness	1.00
ReA:						
Rembert	Poorly suited		Slight		Poorly suited	
	Ponding	1.00			Ponding	1.00
	Flooding	1.00			Flooding	1.00
	Wetness	1.00			Wetness	1.00
TfA:						
Tifton	Well suited		Slight		Well suited	
TfB:						
Tifton	Well suited		Slight		Well suited	
TfC:						
Tifton	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
TrB:						
Troup	Well suited		Slight		Well suited	
TrD:						
Troup	Moderately suited		Moderate		Moderately suited	
	Slope	0.50	Slope/erodibility	0.50	Slope	0.50
Ud:						
Udorthents, loamy	Not rated		Not rated		Not rated	

Table 9a.--Forestland Management--Continued

Map symbol and soil name	Suitability for log landings		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Up:						
Udorthents	Not rated		Not rated		Not rated	
Pits	Not rated		Not rated		Not rated	
UtC:						
Urban land	Not rated		Not rated		Not rated	
Tifton	Well suited		Slight		Well suited	
WaB:						
Wagram	Well suited		Slight		Well suited	
WhA:						
Wahee	Moderately suited		Slight		Moderately suited	
	Wetness	0.50			Wetness	0.50
	Flooding	0.50			Flooding	0.50

Table 9b.--Forestland Management

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.1 to 1.0. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BgB:						
Bigbee	Moderately suited		Moderately suited		Well suited	
	Sandiness	0.50	Sandiness	0.50		
BlB:						
Blanton	Well suited		Well suited		Well suited	
BlD:						
Blanton	Well suited		Moderately suited		Well suited	
			Slope	0.50		
BoB:						
Bonneau	Well suited		Well suited		Well suited	
BoD:						
Bonneau	Well suited		Moderately suited		Well suited	
			Slope	0.50		
CaB:						
Carnegie	Well suited		Well suited		Well suited	
CaC:						
Carnegie	Well suited		Moderately suited		Well suited	
			Slope	0.50		
CgC:						
Cowarts	Well suited		Moderately suited		Well suited	
			Slope	0.50		
Gritney	Poorly suited		Poorly suited		Moderately suited	
	Stickiness	0.75	Stickiness	0.75	Sandiness	0.50
	Sandiness	0.50	Slope	0.50		
			Sandiness	0.50		
CgD:						
Cowarts	Well suited		Moderately suited		Well suited	
			Slope	0.50		
Gritney	Poorly suited		Poorly suited		Moderately suited	
	Stickiness	0.75	Stickiness	0.75	Sandiness	0.50
	Sandiness	0.50	Slope	0.50		
			Sandiness	0.50		
DoA:						
Dothan	Well suited		Well suited		Well suited	
DoB:						
Dothan	Well suited		Well suited		Well suited	
FeA:						
Faceville	Well suited		Well suited		Well suited	
FeB:						
Faceville	Well suited		Well suited		Well suited	

Table 9b.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FeC:						
Faceville	Well suited		Moderately suited		Well suited	
			Slope	0.50		
FuB:						
Fuquay	Well suited		Well suited		Well suited	
GoA:						
Goldsboro	Well suited		Well suited		Well suited	
GrA:						
Grady	Well suited		Well suited		Well suited	
HvA:						
Hornsville	Moderately suited		Moderately suited		Well suited	
	Stickiness	0.50	Stickiness	0.50		
LkB:						
Lakeland	Moderately suited		Moderately suited		Moderately suited	
	Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
LkD:						
Lakeland	Moderately suited		Moderately suited		Moderately suited	
	Sandiness	0.50	Slope	0.50	Sandiness	0.50
			Sandiness	0.50		
LmB:						
Lucy	Well suited		Well suited		Well suited	
LmC:						
Lucy	Well suited		Moderately suited		Well suited	
			Slope	0.50		
LnA:						
Lynchburg	Well suited		Well suited		Well suited	
NaB:						
Nankin	Well suited		Well suited		Well suited	
NcC:						
Nankin	Well suited		Moderately suited		Well suited	
			Slope	0.50		
Cowarts	Well suited		Moderately suited		Well suited	
			Slope	0.50		
NcD:						
Nankin	Well suited		Moderately suited		Well suited	
			Slope	0.50		
Cowarts	Well suited		Moderately suited		Well suited	
			Slope	0.50		
NoA:						
Norfolk	Well suited		Well suited		Well suited	
NoB:						
Norfolk	Well suited		Well suited		Well suited	

Table 9b.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NoC:						
Norfolk	Well suited		Moderately suited Slope	 0.50	Well suited	
OcA:						
Ocilla	Well suited		Well suited		Well suited	
OeA:						
Orangeburg	Well suited		Well suited		Well suited	
OeB:						
Orangeburg	Well suited		Well suited		Well suited	
OeC:						
Orangeburg	Well suited		Moderately suited Slope	 0.50	Well suited	
OeD:						
Orangeburg	Well suited		Moderately suited Slope	 0.50	Well suited	
OSA:						
Osier	Moderately suited Sandiness	 0.50	Moderately suited Sandiness	 0.50	Well suited	
Bibb	Well suited		Well suited		Well suited	
PeA:						
Pelham	Well suited		Well suited		Well suited	
ReA:						
Rembert	Moderately suited Stickiness	 0.50	Moderately suited Stickiness	 0.50	Well suited	
TfA:						
Tifton	Well suited		Well suited		Well suited	
TfB:						
Tifton	Well suited		Well suited		Well suited	
TfC:						
Tifton	Well suited		Moderately suited Slope	 0.50	Well suited	
TrB:						
Troup	Well suited		Well suited		Well suited	
TrD:						
Troup	Well suited		Moderately suited Slope	 0.50	Well suited	
Ud:						
Udorthents, loamy	Not rated		Not rated		Not rated	
Up:						
Udorthents	Not rated		Not rated		Not rated	
Pits	Not rated		Not rated		Not rated	

Table 9b.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UtC:						
Urban land	Not rated		Not rated		Not rated	
Tifton	Well suited		Well suited		Well suited	
WaB:						
Wagram	Well suited		Well suited		Well suited	
WhA:						
Wahee	Poorly suited Stickiness	0.75	Poorly suited Stickiness	0.75	Well suited	

Table 10.--Recreation Site Development

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BgB:								
Bigbee	Very limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Too sandy	0.94	Too sandy	0.94	Too sandy	0.94
	Too sandy	0.94			Slope	0.12		
BlB:								
Blanton	Somewhat limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.70	Too sandy	0.70	Too sandy	0.70	Too sandy	0.70
					Slope	0.12		
BlD:								
Blanton	Somewhat limited		Somewhat limited		Very limited		Somewhat limited	
	Too sandy	0.70	Too sandy	0.70	Slope	1.00	Too sandy	0.70
	Slope	0.04	Slope	0.04	Too sandy	0.70		
BoB:								
Bonneau	Somewhat limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.91	Too sandy	0.91	Too sandy	0.91	Too sandy	0.91
					Slope	0.12		
BoD:								
Bonneau	Somewhat limited		Somewhat limited		Very limited		Somewhat limited	
	Too sandy	0.91	Too sandy	0.91	Slope	1.00	Too sandy	0.91
	Slope	0.04	Slope	0.04	Too sandy	0.91		
CaB:								
Carnegie	Somewhat limited		Somewhat limited		Somewhat limited		Not limited	
	Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50		
					Restricted permeability	0.26		
					Gravel content	0.22		
CaC:								
Carnegie	Somewhat limited		Somewhat limited		Very limited		Not limited	
	Restricted permeability	0.26	Restricted permeability	0.26	Slope	1.00		
					Restricted permeability	0.26		
					Gravel content	0.22		

Table 10.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CgC:								
Cowarts	Somewhat limited		Somewhat limited		Very limited		Not limited	
	Restricted permeability	0.60	Restricted permeability	0.60	Slope	1.00		
					Restricted permeability	0.60		
Gritney	Somewhat limited		Somewhat limited		Very limited		Not limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00		
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Restricted permeability	0.96		
					Depth to saturated zone	0.07		
CgD:								
Cowarts	Somewhat limited		Somewhat limited		Very limited		Not limited	
	Restricted permeability	0.60	Restricted permeability	0.60	Slope	1.00		
	Slope	0.16	Slope	0.16	Restricted permeability	0.60		
Gritney	Somewhat limited		Somewhat limited		Very limited		Not limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00		
	Slope	0.16	Slope	0.16	Restricted permeability	0.96		
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Depth to saturated zone	0.07		
DoA:								
Dothan	Not limited		Not limited		Not limited		Not limited	
DoB:								
Dothan	Not limited		Not limited		Somewhat limited		Not limited	
					Slope	0.50		
FeA:								
Faceville	Not limited		Not limited		Not limited		Not limited	
FeB:								
Faceville	Not limited		Not limited		Somewhat limited		Not limited	
					Slope	0.50		
FeC:								
Faceville	Not limited		Not limited		Very limited		Not limited	
					Slope	1.00		

Table 10.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FuB:								
Fuquay	Somewhat limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.87	Too sandy	0.87	Too sandy	0.87	Too sandy	0.87
					Slope	0.50		
GoA:								
Goldsboro	Not limited		Not limited		Not limited		Not limited	
GrA:								
Grady	Very limited		Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96		
HvA:								
Hornsville	Somewhat limited		Somewhat limited		Somewhat limited		Not limited	
	Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26		
LkB:								
Lakeland	Very limited		Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
					Slope	0.12		
LkD:								
Lakeland	Very limited		Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
	Slope	0.04	Slope	0.04	Slope	1.00		
LmB:								
Lucy	Somewhat limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.84	Too sandy	0.84	Too sandy	0.84	Too sandy	0.84
					Slope	0.12		
LmC:								
Lucy	Somewhat limited		Somewhat limited		Very limited		Somewhat limited	
	Too sandy	0.84	Too sandy	0.84	Slope	1.00	Too sandy	0.84
					Too sandy	0.84		
LnA:								
Lynchburg	Very limited		Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 10.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NaB:								
Nankin	Somewhat limited Restricted permeability	0.26	Somewhat limited Restricted permeability	0.26	Somewhat limited Slope Restricted permeability	0.50 0.26	Not limited	
NcC:								
Nankin	Somewhat limited Restricted permeability	0.26	Somewhat limited Restricted permeability	0.26	Very limited Slope Restricted permeability	1.00 0.26	Not limited	
Cowarts	Somewhat limited Restricted permeability	0.60	Somewhat limited Restricted permeability	0.60	Very limited Slope Restricted permeability	1.00 0.60	Not limited	
NcD:								
Nankin	Somewhat limited Restricted permeability Slope	0.26 0.16	Somewhat limited Restricted permeability Slope	0.26 0.16	Very limited Slope Restricted permeability	1.00 0.26	Not limited	
Cowarts	Somewhat limited Restricted permeability Slope	0.60 0.16	Somewhat limited Restricted permeability Slope	0.60 0.16	Very limited Slope Restricted permeability	1.00 0.60	Not limited	
NoA:								
Norfolk	Not limited		Not limited		Not limited		Not limited	
NoB:								
Norfolk	Not limited		Not limited		Somewhat limited Slope	0.50	Not limited	
NoC:								
Norfolk	Not limited		Not limited		Very limited Slope	1.00	Not limited	
OcA:								
Ocilla	Somewhat limited Too sandy Depth to saturated zone	0.81 0.81	Somewhat limited Too sandy Depth to saturated zone	0.81 0.48	Somewhat limited Too sandy Depth to saturated zone	0.81 0.81	Somewhat limited Too sandy Depth to saturated zone	0.81 0.11

Table 10.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OeA:								
Orangeburg	Not limited		Not limited		Not limited		Not limited	
OeB:								
Orangeburg	Not limited		Not limited		Somewhat limited		Not limited	
					Slope	0.50		
OeC:								
Orangeburg	Not limited		Not limited		Very limited		Not limited	
					Slope	1.00		
OeD:								
Orangeburg	Somewhat limited		Somewhat limited		Very limited		Not limited	
	Slope	0.16	Slope	0.16	Slope	1.00		
OSA:								
Osier	Very limited		Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Too sandy	0.92	Flooding	1.00	Too sandy	0.92
	Too sandy	0.92	Flooding	0.40	Too sandy	0.92	Flooding	0.40
Bibb	Very limited		Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40	Flooding	1.00	Flooding	0.40
PeA:								
Pelham	Very limited		Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Too sandy	0.92	Flooding	1.00	Too sandy	0.92
	Too sandy	0.92	Flooding	0.40	Too sandy	0.92	Flooding	0.40
ReA:								
Rembert	Very limited		Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Restricted permeability	0.96	Ponding	1.00	Flooding	0.40
	Restricted permeability	0.96	Flooding	0.40	Restricted permeability	0.96		

Table 10.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TfA:								
Tifton	Not limited		Not limited		Somewhat limited		Not limited	
					Gravel content	0.92		
TfB:								
Tifton	Not limited		Not limited		Somewhat limited		Not limited	
					Gravel content	0.92		
					Slope	0.50		
TfC:								
Tifton	Not limited		Not limited		Very limited		Not limited	
					Slope	1.00		
					Gravel content	0.92		
TrB:								
Troup	Somewhat limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.81	Too sandy	0.81	Too sandy	0.81	Too sandy	0.81
					Slope	0.12		
TrD:								
Troup	Somewhat limited		Somewhat limited		Very limited		Somewhat limited	
	Too sandy	0.81	Too sandy	0.81	Slope	1.00	Too sandy	0.81
	Slope	0.04	Slope	0.04	Too sandy	0.81		
Ud:								
Udorthents, loamy	Not Rated		Not Rated		Not Rated		Not Rated	
Up:								
Udorthents	Not Rated		Not Rated		Not Rated		Not Rated	
Pits	Not Rated		Not Rated		Not Rated		Not Rated	
UtC:								
Urban land	Not Rated		Not Rated		Not Rated		Not Rated	
Tifton	Not limited		Not limited		Somewhat limited		Not limited	
					Gravel content	0.92		
					Slope	0.50		
WaB:								
Wagram	Somewhat limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.87	Too sandy	0.87	Too sandy	0.87	Too sandy	0.87
					Slope	0.12		

Table 10.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WhA:								
Wahee	Very limited		Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Restricted permeability	0.96	Restricted permeability	0.96		
	Restricted permeability	0.96			Flooding	0.60		

Table 11.--Wildlife Habitat

[See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable]

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
BgB:										
Bigbee	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Fair	Poor	Very poor
BlB:										
Blanton	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
BlD:										
Blanton	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
BoB:										
Bonneau	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
BoD:										
Bonneau	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
CaB:										
Carnegie	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
CaC:										
Carnegie	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
CgC:										
Cowarts	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Gritney	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
CgD:										
Cowarts	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Gritney	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
DoA:										
Dothan	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
DoB:										
Dothan	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
FeA:										
Faceville	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
FeB:										
Faceville	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
FeC:										
Faceville	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
FuB:										
Fuquay	Fair	Fair	Good	Fair	Fair	Very poor	Very poor	Good	Good	Very poor
GoA:										
Goldsboro	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
GrA:										
Grady	Very poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
HvA:										
Hornsville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
LkB:										
Lakeland	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
LkD:										
Lakeland	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
LmB:										
Lucy	Poor	Fair	Good	Good	Good	Poor	Very poor	Fair	Good	Very poor
LmC:										
Lucy	Poor	Fair	Good	Fair	Good	Very poor	Very poor	Fair	Good	Very poor
LnA:										
Lynchburg	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
NaB:										
Nankin	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
NcC:										
Nankin	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Cowarts	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
NcD:										
Nankin	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Cowarts	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
NoA:										
Norfolk	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
NoB:										
Norfolk	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
NoC:										
Norfolk	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
OcA:										
Ocilla	Fair	Fair	Good	Fair	Good	Fair	Fair	Fair	Good	Fair
OeA:										
Orangeburg	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
OeB:										
Orangeburg	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
OeC:										
Orangeburg	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
OeD:										
Orangeburg	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
OSA:										
Osier	Very poor	Poor	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair
Bibb	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good
PeA:										
Pelham	Poor	Poor	Fair	Fair	Poor	Fair	Fair	Poor	Fair	Fair
ReA:										
Rembert	Very poor	Poor	Very poor	Poor	Very poor	Good	Good	Very poor	Poor	Good
TfA:										
Tifton	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
TfB:										
Tifton	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
TfC:										
Tifton	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
TrB:										
Troup	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Good	Very poor
TrD:										
Troup	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Good	Very poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Ud:										
Udorthents, loamy.										
Up:										
Udorthents.										
Pits.										
UtC:										
Urban land.										
Tifton	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
WaB:										
Wagram	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
WhA:										
Wahee	Fair	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair

Table 12.--Building Site Development

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BgB:								
Bigbee	Very limited		Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	0.40	Cutbanks cave	1.00
			Depth to saturated zone	0.24			Depth to saturated zone	0.24
BlB:								
Blanton	Not limited		Somewhat limited		Not limited		Very limited	
			Depth to saturated zone	0.15			Cutbanks cave	1.00
							Depth to saturated zone	0.15
BlD:								
Blanton	Somewhat limited		Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Depth to saturated zone	0.15	Slope	0.04	Cutbanks cave	1.00
							Depth to saturated zone	0.15
			Slope	0.04			Slope	0.04
BoB:								
Bonneau	Not limited		Somewhat limited		Not limited		Very limited	
			Depth to saturated zone	0.47			Cutbanks cave	1.00
							Depth to saturated zone	0.47
BoD:								
Bonneau	Somewhat limited		Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Depth to saturated zone	0.47	Slope	0.04	Cutbanks cave	1.00
							Depth to saturated zone	0.47
			Slope	0.04			Slope	0.04
CaB:								
Carnegie	Not limited		Not limited		Somewhat limited		Somewhat limited	
					Low strength	0.50	Too clayey	0.15
CaC:								
Carnegie	Not limited		Not limited		Somewhat limited		Somewhat limited	
					Low strength	0.50	Too clayey	0.15

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CgC:								
Cowarts	Not limited		Not limited		Not limited		Not limited	
Gritney	Somewhat limited		Very limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Low strength	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	0.07	Shrink-swell	0.50	Shrink-swell	0.50	Too clayey	0.28
					Depth to saturated zone	0.03		
CgD:								
Cowarts	Somewhat limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16	Slope	0.16	Slope	0.16
Gritney	Somewhat limited		Very limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Low strength	1.00	Depth to saturated zone	1.00
	Slope	0.16	Shrink-swell	0.50	Shrink-swell	0.50	Too clayey	0.28
	Depth to saturated zone	0.07	Slope	0.16	Slope	0.16	Slope	0.16
					Depth to saturated zone	0.03		
DoA:								
Dothan	Not limited		Somewhat limited		Not limited		Somewhat limited	
			Depth to saturated zone	0.61			Depth to saturated zone	0.61
DoB:								
Dothan	Not limited		Somewhat limited		Not limited		Somewhat limited	
			Depth to saturated zone	0.61			Depth to saturated zone	0.61
FeA:								
Faceville	Not limited		Not limited		Somewhat limited		Somewhat limited	
					Low strength	0.50	Too clayey	0.12
FeB:								
Faceville	Not limited		Not limited		Somewhat limited		Somewhat limited	
					Low strength	0.50	Too clayey	0.12
FeC:								
Faceville	Not limited		Not limited		Somewhat limited		Somewhat limited	
					Low strength	0.50	Too clayey	0.12

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FuB:								
Fuquay	Not limited		Somewhat limited		Not limited		Very limited	
			Depth to saturated zone	0.16			Cutbanks cave	1.00
							Depth to saturated zone	0.16
GoA:								
Goldsboro	Not limited		Very limited		Somewhat limited		Very limited	
			Depth to saturated zone	1.00	Low strength	0.76	Depth to saturated zone	1.00
GrA:								
Grady	Very limited		Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00	Ponding	1.00
					Low strength	0.50	Too clayey	0.88
HvA:								
Hornsville	Not limited		Somewhat limited		Somewhat limited		Somewhat limited	
			Depth to saturated zone	0.95	Low strength	0.50	Depth to saturated zone	0.95
LkB:								
Lakeland	Not limited		Not limited		Not limited		Very limited	
							Cutbanks cave	1.00
LkD:								
Lakeland	Somewhat limited		Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	0.04	Cutbanks cave	1.00
							Slope	0.04
LmB:								
Lucy	Not limited		Not limited		Not limited		Very limited	
							Cutbanks cave	1.00
LmC:								
Lucy	Not limited		Not limited		Not limited		Very limited	
							Cutbanks cave	1.00
LnA:								
Lynchburg	Very limited		Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NaB:								
Nankin	Not limited		Not limited		Not limited		Somewhat limited	
							Too clayey	0.03
NcC:								
Nankin	Not limited		Not limited		Not limited		Somewhat limited	
							Too clayey	0.03
Cowarts	Not limited		Not limited		Not limited		Not limited	
NcD:								
Nankin	Somewhat limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16	Slope	0.16	Slope	0.16
							Too clayey	0.03
Cowarts	Somewhat limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16	Slope	0.16	Slope	0.16
NoA:								
Norfolk	Not limited		Somewhat limited		Not limited		Somewhat limited	
			Depth to saturated zone	0.15			Depth to saturated zone	0.15
NoB:								
Norfolk	Not limited		Somewhat limited		Not limited		Somewhat limited	
			Depth to saturated zone	0.15			Depth to saturated zone	0.15
NoC:								
Norfolk	Not limited		Somewhat limited		Not limited		Somewhat limited	
			Depth to saturated zone	0.15			Depth to saturated zone	0.15
OcA:								
Ocilla	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.81	Depth to saturated zone	1.00	Depth to saturated zone	0.48	Depth to saturated zone	1.00
							Cutbanks cave	1.00
OeA:								
Orangeburg	Not limited		Not limited		Not limited		Not limited	
OeB:								
Orangeburg	Not limited		Not limited		Not limited		Not limited	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OeC:								
Orangeburg	Not limited		Not limited		Not limited		Not limited	
OeD:								
Orangeburg	Somewhat limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16	Slope	0.16	Slope	0.16
OSA:								
Osier	Very limited		Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00	Cutbanks cave	1.00
							Flooding	0.80
Bibb	Very limited		Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00	Cutbanks cave	1.00
							Flooding	0.80
PeA:								
Pelham	Very limited		Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00	Cutbanks cave	1.00
							Flooding	0.80
ReA:								
Rembert	Very limited		Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00	Flooding	0.80
					Low strength	0.50	Too clayey	0.28
TfA:								
Tifton	Not limited		Somewhat limited		Not limited		Somewhat limited	
			Depth to saturated zone	0.35			Depth to saturated zone	0.35
TfB:								
Tifton	Not limited		Somewhat limited		Not limited		Somewhat limited	
			Depth to saturated zone	0.35			Depth to saturated zone	0.35

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TfC:								
Tifton	Not limited		Somewhat limited		Not limited		Somewhat limited	
			Depth to saturated zone	0.35			Depth to saturated zone	0.35
TrB:								
Troup	Not limited		Not limited		Not limited		Very limited	
							Cutbanks cave	1.00
TrD:								
Troup	Somewhat limited		Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	0.04	Cutbanks cave	1.00
							Slope	0.04
Ud:								
Udorthents, loamy	Not Rated		Not Rated		Not Rated		Not Rated	
Up:								
Udorthents	Not Rated		Not Rated		Not Rated		Not Rated	
Pits	Not Rated		Not Rated		Not Rated		Not Rated	
UtC:								
Urban land	Not Rated		Not Rated		Not Rated		Not Rated	
Tifton	Not limited		Somewhat limited		Not limited		Somewhat limited	
			Depth to saturated zone	0.35			Depth to saturated zone	0.35
WaB:								
Wagram	Not limited		Not limited		Not limited		Very limited	
							Cutbanks cave	1.00
WhA:								
Wahee	Very limited		Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Low strength	1.00		
					Depth to saturated zone	1.00	Too clayey	0.72
	Shrink-swell	0.50	Shrink-swell	0.50			Flooding	0.60
					Shrink-swell	0.50		

Table 13.--Sanitary Facilities

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
BgB:				
Bigbee	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Depth to saturated zone	0.65	Flooding	0.40
	Flooding	0.40	Slope	0.08
			Depth to saturated zone	0.02
BlB:				
Blanton	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.68	Slope	0.08
	Depth to saturated zone	0.40		
BlD:				
Blanton	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.68	Slope	1.00
	Depth to saturated zone	0.40		
	Slope	0.04		
BoB:				
Bonneau	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Depth to saturated zone	0.94	Depth to saturated zone	0.40
	Restricted permeability	0.50	Slope	0.08
BoD:				
Bonneau	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Depth to saturated zone	0.94	Slope	1.00
	Restricted permeability	0.50	Depth to saturated zone	0.40
	Slope	0.04		
CaB:				
Carnegie	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.32
CaC:				
Carnegie	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
CgC:				
Cowarts	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
			Seepage	0.32
Gritney	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
			Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.44
CgD:				
Cowarts	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
			Seepage	0.32
	Slope	0.16		
Gritney	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
			Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.44
	Slope	0.16		
DoA:				
Dothan	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.50
	Depth to saturated zone	1.00		
DoB:				
Dothan	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.50
			Slope	0.32
	Depth to saturated zone	1.00		
FeA:				
Faceville	Somewhat limited		Somewhat limited	
	Restricted permeability	0.50	Seepage	0.50
FeB:				
Faceville	Somewhat limited		Somewhat limited	
	Restricted permeability	0.50	Seepage	0.50
			Slope	0.32
FeC:				
Faceville	Somewhat limited		Very limited	
	Restricted permeability	0.50	Slope	1.00
			Seepage	0.50
FuB:				
Fuquay	Very limited		Very limited	
	Restricted permeability	1.00	Seepage	1.00
			Slope	0.32
	Filtering capacity	1.00		
	Depth to saturated zone	0.43		

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
GoA:				
Goldsboro	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.50	Seepage	0.50
GrA:				
Grady	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00		
HvA:				
Hornsville	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.50
LkB:				
Lakeland	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.08
LkD:				
Lakeland	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Slope	0.04	Slope	1.00
LmB:				
Lucy	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.50	Slope	0.08
LmC:				
Lucy	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.50	Slope	1.00
LnA:				
Lynchburg	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.50	Seepage	1.00
NaB:				
Nankin	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.50
			Slope	0.32
NcC:				
Nankin	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
			Seepage	0.50

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
NcC:				
Cowarts	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
			Seepage	0.32
NcD:				
Nankin	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.16	Seepage	0.50
Cowarts	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.16	Seepage	0.32
NoA:				
Norfolk	Somewhat limited		Somewhat limited	
	Restricted permeability	0.50	Seepage	0.50
	Depth to saturated zone	0.40		
NoB:				
Norfolk	Somewhat limited		Somewhat limited	
	Restricted permeability	0.50	Seepage	0.50
	Depth to saturated zone	0.40	Slope	0.32
NoC:				
Norfolk	Somewhat limited		Very limited	
	Restricted permeability	0.50	Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.50
OcA:				
Ocilla	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.68		
OeA:				
Orangeburg	Somewhat limited		Very limited	
	Restricted permeability	0.50	Seepage	1.00
OeB:				
Orangeburg	Somewhat limited		Very limited	
	Restricted permeability	0.50	Seepage	1.00
			Slope	0.32
OeC:				
Orangeburg	Somewhat limited		Very limited	
	Restricted permeability	0.50	Seepage	1.00
			Slope	1.00

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
OeD:				
Orangeburg	Somewhat limited		Very limited	
	Restricted permeability	0.50	Slope	1.00
	Slope	0.16	Seepage	1.00
OSA:				
Osier	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
Bibb	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.50	Seepage	1.00
PeA:				
Pelham	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.68		
ReA:				
Rembert	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Ponding	1.00	Ponding	1.00
TfA:				
Tifton	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.50
	Depth to saturated zone	0.84		
TfB:				
Tifton	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.50
	Depth to saturated zone	0.84	Slope	0.32
TfC:				
Tifton	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	0.84	Seepage	0.50

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
TrB:				
Troup	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.50	Slope	0.08
TrD:				
Troup	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.50	Slope	1.00
	Slope	0.04		
Ud:				
Udorthents, loamy	Not Rated		Not Rated	
Up:				
Udorthents	Not Rated		Not Rated	
Pits	Not Rated		Not Rated	
UtC:				
Urban land	Not Rated		Not Rated	
Tifton	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.50
	Depth to saturated zone	0.84	Slope	0.32
WaB:				
Wagram	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.50	Slope	0.08
WhA:				
Wahee	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		

Table 14.--Construction Materials

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Potential source of sand		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BgB:						
Bigbee	Fair		Good		Poor	
	Thickest layer	0.19			Too sandy	0.00
	Bottom layer	0.19			Too acid	0.98
BlB:						
Blanton	Poor		Good		Fair	
	Thickest layer	0.00			Too sandy	0.07
	Bottom layer	0.00			Too acid	0.98
BlD:						
Blanton	Poor		Good		Fair	
	Thickest layer	0.00			Too sandy	0.07
	Bottom layer	0.00			Slope	0.96
					Too acid	0.98
BoB:						
Bonneau	Fair		Good		Poor	
	Bottom layer	0.00			Too sandy	0.00
	Thickest layer	0.06			Too acid	0.98
BoD:						
Bonneau	Fair		Good		Poor	
	Bottom layer	0.00			Too sandy	0.00
	Thickest layer	0.06			Slope	0.96
					Too acid	0.98
CaB:						
Carnegie	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too Clayey	0.00
	Bottom layer	0.00			Too acid	0.59
CaC:						
Carnegie	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too Clayey	0.00
	Bottom layer	0.00			Too acid	0.59
CgC:						
Cowarts	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.31
	Bottom layer	0.00			Too acid	0.88
Gritney	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too Clayey	0.00
	Bottom layer	0.00	Depth to saturated zone	0.76	Too acid	0.50
					Depth to saturated zone	0.76
			Shrink-swell	0.95		
CgD:						
Cowarts	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.31
	Bottom layer	0.00			Slope	0.84
					Too acid	0.88

Table 14.--Construction Materials--Continued

Map symbol and soil name	Potential source of sand		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CgD:						
Gritney	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too Clayey	0.00
	Bottom layer	0.00	Depth to saturated zone	0.76	Too acid	0.50
			Shrink-swell	0.95	Depth to saturated zone	0.76
					Slope	0.84
DoA:						
Dothan	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.55
	Bottom layer	0.00			Too acid	0.98
DoB:						
Dothan	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.55
	Bottom layer	0.00			Too acid	0.98
FeA:						
Faceville	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too Clayey	0.00
	Bottom layer	0.00			Too acid	0.98
FeB:						
Faceville	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too Clayey	0.00
	Bottom layer	0.00			Too acid	0.98
FeC:						
Faceville	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too Clayey	0.00
	Bottom layer	0.00			Too acid	0.98
FuB:						
Fuquay	Poor		Good		Poor	
	Thickest layer	0.00			Too sandy	0.00
	Bottom layer	0.00			Too acid	0.98
GoA:						
Goldsboro	Poor		Fair		Fair	
	Thickest layer	0.00	Low strength	0.24	Too acid	0.50
	Bottom layer	0.00	Depth to saturated zone	0.89	Too Clayey	0.57
					Depth to saturated zone	0.89
GrA:						
Grady	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to saturated zone	0.00	Too Clayey	0.00
	Bottom layer	0.00	Low strength	0.50	Depth to saturated zone	0.00
					Too acid	0.59
HvA:						
Hornsville	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.01
	Bottom layer	0.00			Too acid	0.76
LkB:						
Lakeland	Fair		Good		Poor	
	Thickest layer	0.84			Too sandy	0.00
	Bottom layer	0.99			Too acid	0.98

Table 14.--Construction Materials--Continued

Map symbol and soil name	Potential source of sand		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LkD:						
Lakeland	Fair		Good		Poor	
	Thickest layer	0.84			Too sandy	0.00
	Bottom layer	0.99			Slope	0.96
					Too acid	0.98
LmB:						
Lucy	Poor		Good		Poor	
	Thickest layer	0.00			Too sandy	0.00
	Bottom layer	0.00				
LmC:						
Lucy	Poor		Good		Poor	
	Thickest layer	0.00			Too sandy	0.00
	Bottom layer	0.00				
LnA:						
Lynchburg	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Bottom layer	0.00			Too Clayey	0.49
					Too acid	0.59
NaB:						
Nankin	Poor		Good		Poor	
	Thickest layer	0.00			Too Clayey	0.00
	Bottom layer	0.00			Too acid	0.88
NcC:						
Nankin	Poor		Good		Poor	
	Thickest layer	0.00			Too Clayey	0.00
	Bottom layer	0.00			Too acid	0.88
Cowarts	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.33
	Bottom layer	0.00			Too acid	0.88
NcD:						
Nankin	Poor		Good		Poor	
	Thickest layer	0.00			Too Clayey	0.00
	Bottom layer	0.00			Slope	0.84
					Too acid	0.88
Cowarts	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.31
	Bottom layer	0.00			Slope	0.84
					Too acid	0.88
NoA:						
Norfolk	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.38
	Bottom layer	0.00			Too acid	0.50
NoB:						
Norfolk	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.38
	Bottom layer	0.00			Too acid	0.50

Table 14.--Construction Materials--Continued

Map symbol and soil name	Potential source of sand		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NoC:						
Norfolk	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.38
	Bottom layer	0.00			Too acid	0.50
OcA:						
Ocilla	Poor		Fair		Fair	
	Thickest layer	0.00	Depth to saturated zone	0.29	Too sandy	0.01
	Bottom layer	0.00			Depth to saturated zone	0.29
					Too acid	0.88
OeA:						
Orangeburg	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.58
	Bottom layer	0.00			Too acid	0.88
OeB:						
Orangeburg	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.58
	Bottom layer	0.00			Too acid	0.88
OeC:						
Orangeburg	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.58
	Bottom layer	0.00			Too acid	0.88
OeD:						
Orangeburg	Poor		Good		Fair	
	Thickest layer	0.00			Too Clayey	0.58
	Bottom layer	0.00			Slope	0.84
					Too acid	0.88
OSA:						
Osier	Fair		Poor		Poor	
	Thickest layer	0.19	Depth to saturated zone	0.00	Too sandy	0.00
	Bottom layer	0.57			Depth to saturated zone	0.00
					Too acid	0.76
Bibb	Fair		Poor		Poor	
	Thickest layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Bottom layer	0.61			Rock fragments	0.12
					Too acid	0.59
PeA:						
Pelham	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to saturated zone	0.00	Too sandy	0.00
	Bottom layer	0.00			Depth to saturated zone	0.00
					Too acid	0.59
ReA:						
Rembert	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Bottom layer	0.00	Low strength	0.50	Too Clayey	0.00
					Too acid	0.88

Table 14.--Construction Materials--Continued

Map symbol and soil name	Potential source of sand		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TfA:						
Tifton	Poor		Good		Fair	
	Thickest layer	0.00			Rock fragments	0.45
	Bottom layer	0.00			Too Clayey	0.52
					Too acid	0.98
TfB:						
Tifton	Poor		Good		Fair	
	Thickest layer	0.00			Rock fragments	0.45
	Bottom layer	0.00			Too Clayey	0.52
					Too acid	0.98
TfC:						
Tifton	Poor		Good		Fair	
	Thickest layer	0.00			Rock fragments	0.45
	Bottom layer	0.00			Too Clayey	0.52
					Too acid	0.98
TrB:						
Troup	Poor		Good		Fair	
	Thickest layer	0.00			Too sandy	0.01
	Bottom layer	0.00			Too acid	0.98
TrD:						
Troup	Poor		Good		Fair	
	Thickest layer	0.00			Too sandy	0.01
	Bottom layer	0.00			Slope	0.96
					Too acid	0.98
Ud:						
Udorthents, loamy	Not Rated		Not rated		Not Rated	
Up:						
Udorthents	Not Rated		Not rated		Not Rated	
Pits	Not Rated		Not rated		Not Rated	
UtC:						
Urban land	Not Rated		Not rated		Not Rated	
Tifton	Poor		Good		Fair	
	Thickest layer	0.00			Rock fragments	0.45
	Bottom layer	0.00			Too Clayey	0.54
					Too acid	0.98
WaB:						
Wagram	Poor		Good		Poor	
	Thickest layer	0.00			Too sandy	0.00
	Bottom layer	0.00			Too acid	0.98
WhA:						
Wahee	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too Clayey	0.00
	Bottom layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Shrink-swell	0.87	Too acid	0.59

Table 15.--Water Management

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pond reservoir areas		Embankments, dikes and levees	
	Rating class and limiting features	Value	Rating class and limiting features	Value
BgB:				
Bigbee	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.14
	Slope	0.01		
BlB:				
Blanton	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.10
	Slope	0.01		
BlD:				
Blanton	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.10
	Slope	0.77		
BoB:				
Bonneau	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.13
	Slope	0.01		
BoD:				
Bonneau	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.13
	Slope	0.77		
CaB:				
Carnegie	Somewhat limited		Somewhat limited	
	Seepage	0.03	Piping	0.12
	Slope	0.03		
CaC:				
Carnegie	Somewhat limited		Somewhat limited	
	Slope	0.40	Piping	0.12
	Seepage	0.03		
CgC:				
Cowarts	Somewhat limited		Somewhat limited	
	Seepage	0.57	Seepage	0.03
	Slope	0.40		
Gritney	Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	0.95
	Slope	0.40		
CgD:				
Cowarts	Somewhat limited		Somewhat limited	
	Slope	0.90	Seepage	0.03
	Seepage	0.57		
Gritney	Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	0.95
	Slope	0.90		

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes and levees	
	Rating class and limiting features	Value	Rating class and limiting features	Value
DoA:				
Dothan	Somewhat limited		Not limited	
	Seepage	0.70		
DoB:				
Dothan	Somewhat limited		Not limited	
	Seepage	0.70		
	Slope	0.03		
FeA:				
Faceville	Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.26
			Seepage	0.04
FeB:				
Faceville	Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.26
	Slope	0.03	Seepage	0.04
FeC:				
Faceville	Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.26
	Slope	0.40	Seepage	0.04
FuB:				
Fuquay	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.11
	Slope	0.03		
GoA:				
Goldsboro	Somewhat limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	0.86
			Seepage	0.03
GrA:				
Grady	Not limited		Very limited	
			Depth to saturated zone	1.00
			Ponding	1.00
			Piping	0.41
HvA:				
Hornsville	Somewhat limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	0.43
LkB:				
Lakeland	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.75
	Slope	0.01		
LkD:				
Lakeland	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.75
	Slope	0.77		
LmB:				
Lucy	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.10
	Slope	0.01		

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes and levees	
	Rating class and limiting features	Value	Rating class and limiting features	Value
LmC:				
Lucy	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.10
	Slope	0.40		
LnA:				
Lynchburg	Somewhat limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00
NaB:				
Nankin	Somewhat limited		Not limited	
	Seepage	0.70		
	Slope	0.03		
NcC:				
Nankin	Somewhat limited		Not limited	
	Seepage	0.70		
	Slope	0.40		
Cowarts	Somewhat limited		Somewhat limited	
	Seepage	0.57	Seepage	0.03
	Slope	0.40		
NcD:				
Nankin	Somewhat limited		Not limited	
	Slope	0.90		
	Seepage	0.70		
Cowarts	Somewhat limited		Somewhat limited	
	Slope	0.90	Seepage	0.03
	Seepage	0.57		
NoA:				
Norfolk	Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.94
			Seepage	0.03
NoB:				
Norfolk	Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.94
	Slope	0.03	Seepage	0.03
NoC:				
Norfolk	Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.92
	Slope	0.40	Seepage	0.03
OcA:				
Ocilla	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
OeA:				
Orangeburg	Somewhat limited		Not limited	
	Seepage	0.70		
OeB:				
Orangeburg	Somewhat limited		Not limited	
	Seepage	0.70		
	Slope	0.03		

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes and levees	
	Rating class and limiting features	Value	Rating class and limiting features	Value
OeC:				
Orangeburg	Somewhat limited		Not limited	
	Seepage	0.70		
	Slope	0.40		
OeD:				
Orangeburg	Somewhat limited		Not limited	
	Slope	0.90		
	Seepage	0.70		
OSA:				
Osier	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
			Seepage	0.30
Bibb	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
			Seepage	0.36
PeA:				
Pelham	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
			Seepage	0.07
ReA:				
Rembert	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
			Ponding	1.00
			Piping	0.81
TfA:				
Tifton	Somewhat limited		Not limited	
	Seepage	0.70		
TfB:				
Tifton	Somewhat limited		Not limited	
	Seepage	0.70		
	Slope	0.03		
TfC:				
Tifton	Somewhat limited		Not limited	
	Seepage	0.70		
	Slope	0.40		
TrB:				
Troup	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.10
	Slope	0.01		
TrD:				
Troup	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.10
	Slope	0.77		
Ud:				
Udorthents, loamy	Not Rated		Not Rated	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes and levees	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Up:				
Udorthents	Not Rated		Not Rated	
Pits	Not Rated		Not Rated	
UtC:				
Urban land	Somewhat limited		Not Rated	
	Slope	0.03		
Tifton	Somewhat limited		Not limited	
	Seepage	0.70		
	Slope	0.03		
WaB:				
Wagram	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.10
	Slope	0.01		
WhA:				
Wahee	Not limited		Very limited	
			Depth to saturated zone	1.00
			Hard to pack	0.69
			Seepage	0.04

Table 16.--Engineering Index Properties

[Absence of an entry indicates that the data were not estimated]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
BgB:												
Bigbee----------	0-5	Loamy fine sand	SM	A-2-4	0	0	100	95-100	60-90	15-30	0-2	1-6
	5-28	Fine sand	SM	A-2-4, A-3	0	0	95-100	85-100	50-75	5-20	0-24	NP-6
	28-62	Fine sand	SM	A-2-4, A-3	0	0	85-100	85-100	50-75	5-20	0-23	NP-6
BlB:												
Blanton---------	0-10	Loamy sand	SM	A-2-4	0	0	100	95-100	85-100	13-25	0-14	NP
	10-61	Loamy sand	SM	A-2-4	0	0	100	95-100	85-100	13-25	0-14	NP
	61-68	Sandy loam, loamy sand, loamy coarse sand	SM	A-2-4	0	0	100	95-100	65-96	13-30	0-25	NP-3
	68-80	Sandy clay loam, sandy loam, sandy clay	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0	0	100	95-100	69-100	25-50	12-45	3-22
BlD:												
Blanton---------	0-10	Loamy sand	SM	A-2-4	0	0	100	95-100	85-100	13-25	0-14	NP
	10-61	Loamy sand	SM	A-2-4	0	0	100	95-100	85-100	13-25	0-14	NP
	61-68	Sandy loam, loamy sand, loamy coarse sand	SM	A-2-4	0	0	100	95-100	65-96	13-30	0-25	NP-3
	68-80	Sandy clay loam, sandy loam, sandy clay	SC, SC-SM, SM	A-4, A-6, A-2-6, A-2-4	0	0	100	95-100	69-100	25-50	12-45	3-22
BoB:												
Bonneau---------	0-10	Loamy sand	SM	A-2	0	0	100	100	50-95	15-35	0-14	NP
	10-31	Loamy sand	SM	A-2	0	0	100	100	50-95	15-35	0-14	NP
	31-39	Sandy loam, sandy clay loam, fine sandy loam	SC, SC-SM	A-2, A-4, A-6	0	0	100	100	60-100	30-50	21-40	4-21
	39-72	Sandy loam, sandy clay loam, sandy clay	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	100	100	60-95	25-60	20-40	4-18

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
BoD:												
Bonneau---------	0-10	Loamy sand	SM	A-2	0	0	100	100	50-95	15-35	0-14	NP
	10-31	Loamy sand	SM	A-2	0	0	100	100	50-95	15-35	0-14	NP
	31-39	Sandy loam, sandy clay loam, fine sandy loam	SC, SC-SM	A-2, A-4, A-6	0	0	100	100	60-100	30-50	21-40	4-21
	39-72	Sandy loam, sandy clay loam, sandy clay	CL, CL-ML, SC, SC-SM	A-6, A-4, A-2	0	0	100	100	60-95	25-60	20-40	4-18
CaB:												
Carnegie--------	0-6	Gravelly sandy loam	SC-SM, SM	A-2-4	0	0	85-100	75-95	51-75	13-30	0-25	NP-5
	6-20	Sandy clay, clay loam	CL	A-7-6, A-7	0	0	95-100	90-99	90-95	65-70	36-49	13-25
	20-45	Clay	CL	A-7-6, A-7	0	0	92-100	90-98	89-98	63-76	36-49	13-25
	45-65	Sandy clay, clay	CL	A-7, A-7-6	0	0	99-100	98-100	90-98	68-79	36-49	13-25
CaC:												
Carnegie--------	0-6	Gravelly sandy loam	SM, SC-SM,	A-2-4	0	0	85-100	75-95	51-75	13-30	0-25	NP-5
	6-20	Sandy clay, clay loam	CL	A-7, A-7-6	0	0	95-100	90-99	90-95	65-70	36-49	13-25
	20-45	Clay	CL	A-7, A-7-6	0	0	92-100	90-98	89-98	63-76	36-49	13-25
	45-65	Sandy clay, clay	CL	A-7, A-7-6	0	0	99-100	98-100	90-98	68-79	36-49	13-25
CgC:												
Cowarts---------	0-4	Loamy sand	SM	A-2-4	0	0	95-100	90-100	75-90	20-40	0-20	NP-5
	4-9	Sandy loam, sandy clay loam	SM, SC-SM, SC	A-2, A-4	0	0	95-100	90-100	60-95	23-45	20-40	NP-15
	9-31	Sandy clay loam, sandy clay, clay loam	SC	A-7, A-2-6, A-6	0	0	95-100	90-100	60-95	25-50	20-54	5-25
	31-65	Sandy loam, sandy clay loam, clay loam	SM, CL, SC	A-6, A-4, A-2, A-7	0	0	85-100	80-100	60-95	25-58	25-53	5-20

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
CgC:												
Gritney---------	0-8	Loamy sand	SP-SM, SM	A-2-4	0	0	90-100	85-100	75-99	10-20	20-30	NP-8
	8-49	Sandy clay, clay loam	SC, CL	A-7-6	0	0	95-100	90-100	80-100	36-60	45-70	22-40
	49-65	Clay loam, sandy loam, sandy clay loam	SC, SM, CL	A-6, A-4	0	0-2	95-100	80-100	80-100	45-80	20-40	NP-20
CgD:												
Cowarts---------	0-4	Loamy sand	SM	A-2-4	0	0	95-100	90-100	75-90	20-40	0-20	NP-5
	4-9	Sandy loam, sandy clay loam	SC, SM, SC-SM	A-4, A-2	0	0	95-100	90-100	60-95	23-45	20-40	NP-15
	9-31	Sandy clay loam, sandy clay, clay loam	SC	A-6, A-7, A-2-6	0	0	95-100	90-100	60-95	25-50	20-54	5-25
	31-65	Sandy loam, sandy clay loam, clay loam	CL, SC, SM	A-6, A-7, A-4, A-2	0	0	85-100	80-100	60-95	25-58	25-53	5-20
Gritney---------	0-8	Loamy sand	SM, SP-SM	A-2-4	0	0	90-100	85-100	75-99	10-20	20-30	NP-8
	8-49	Sandy clay, clay loam	CL, SC	A-7-6	0	0	95-100	90-100	80-100	36-60	45-70	22-40
	49-65	Sandy loam, clay loam, sandy clay loam	CL, SC, SM	A-4, A-6	0	0-2	95-100	80-100	80-100	45-80	20-40	NP-25
DoA:												
Dothan----------	0-12	Loamy sand	SM	A-2	0	0	95-100	92-100	60-80	13-30	0-14	NP
	12-48	Sandy clay loam, sandy loam, fine sandy loam	SC-SM, SC	A-6, A-2, A-4	0	0	95-100	92-100	60-90	23-49	0-40	NP-16
	48-65	Sandy clay loam, sandy clay	CL, SC-SM, SC	A-4, A-2, A-6	0	0	95-100	92-100	70-95	30-53	25-45	4-23

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
DoB:												
Dothan----------	0-12	Loamy sand	SM	A-2	0	0	95-100	92-100	60-80	13-30	0-14	NP
	12-48	Sandy clay loam, sandy loam, fine sandy loam	SC, SC-SM	A-4, A-6, A-2	0	0	95-100	92-100	60-90	23-49	0-40	NP-16
	48-65	Sandy clay loam, sandy clay	CL, SC, SC-SM	A-2, A-6, A-4	0	0	95-100	92-100	70-95	30-53	25-45	4-23
FeA:												
Faceville-------	0-4	Sandy loam	SM, SC-SM	A-2-4, A-2, A-4	0	0	90-100	85-100	72-97	17-38	0-25	NP-7
	4-7	Sandy clay loam	SC-SM, ML	A-4	0	0	98-100	90-100	85-98	46-66	0-35	NP-7
	7-65	Sandy clay	SC, CL	A-6, A-7	0	0	98-100	98-100	75-99	45-72	25-52	11-25
FeB:												
Faceville-------	0-4	Sandy loam	SC-SM, SM	A-2, A-4, A-2-4	0	0	90-100	85-100	72-97	17-38	0-25	NP-7
	4-7	Sandy clay loam	ML, SC-SM, SM	A-4	0	0	98-100	90-100	85-98	46-66	0-35	NP-7
	7-65	Sandy clay	CL, SC	A-7, A-6	0	0	98-100	98-100	75-99	45-72	25-52	11-25
FeC:												
Faceville-------	0-4	Sandy loam	SC-SM, SM	A-2-4, A-2, A-4	0	0	90-100	85-100	72-97	17-38	0-25	NP-7
	4-7	Sandy clay loam	SC-SM, SM	A-4	0	0	98-100	90-100	85-98	46-66	0-35	NP-7
	7-65	Sandy clay	CL, SC	A-6, A-7	0	0	98-100	98-100	75-99	45-72	25-52	11-25
FuB:												
Fuquay----------	0-8	Loamy sand	SM	A-2-4	0	0	95-100	90-100	50-83	5-35	10-20	NP
	8-32	Loamy sand	SM	A-2-4	0	0	95-100	90-100	50-83	5-35	10-20	NP
	32-40	Sandy loam, fine sandy loam, sandy clay loam	SM, SC-SM	A-2-4, A-4	0	0	85-100	85-100	70-90	23-45	20-45	NP-13
	40-65	Sandy clay loam	SC	A-2-6, A-6	0	0	95-100	90-100	58-90	28-55	25-45	13-25
GoA:												
Goldsboro-------	0-5	Loamy sand	SM	A-2, A-2-4	0	0	95-100	95-100	50-95	13-30	10-20	NP
	5-10	Loamy sand	SM	A-2-4, A-2	0	0	95-100	95-100	50-95	13-30	10-20	NP
	10-17	Sandy clay loam, sandy loam	SC, SC-SM, CL	A-6, A-4	0	0	98-100	95-100	60-100	25-55	20-37	4-18
	17-65	Sandy clay, sandy clay loam, clay loam	SC, CL	A-4, A-6	0	0	95-100	90-100	65-95	36-70	25-55	6-32

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
GrA:												
Grady----------	0-6	Sandy loam	SC, SC-SM, SM	A-4, A-2, A-2-4	0	0	100	99-100	85-100	25-50	0-20	NP-10
	6-40	Clay	CL	A-7, A-6	0	0	100	100	90-100	55-90	30-51	11-20
	40-65	Clay, sandy clay	CH, CL	A-6, A-7	0	0	100	100	90-100	55-90	30-51	12-24
HvA:												
Hornsville------	0-6	Fine sandy loam	SM	A-4, A-2-4	0	0	100	100	60-95	30-50	0-30	NP-7
	6-10	Sandy loam	SM	A-2-4, A-4	0	0	100	100	60-95	30-50	0-30	NP-7
	10-28	Clay loam, clay	CH, CL, MH, SC	A-6, A-7	0	0	100	100	70-98	45-70	38-56	15-25
	28-65	Sandy clay loam, sandy loam, fine sandy loam	SC, SC-SM, SM	A-6, A-4, A-2-6, A-2-4	0	0	100	100	60-100	18-50	0-30	NP-12
LkB:												
Lakeland--------	0-9	Sand	SP-SM	A-3, A-2-4	0	0	90-100	90-100	60-100	5-12	0-14	NP
	9-80	Sand, fine sand	SP, SP-SM	A-2-4, A-3	0	0	90-100	90-100	50-100	1-12	0-14	NP
LkD:												
Lakeland--------	0-9	Sand	SP-SM	A-3, A-2-4	0	0	90-100	90-100	60-100	5-12	0-14	NP
	9-80	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	0	90-100	90-100	50-100	1-12	0-14	NP
LmB:												
Lucy------------	0-7	Loamy sand	SM, SP-SM	A-4, A-2-4, A-2	0	0	98-100	95-100	50-90	10-40	0-14	NP
	7-28	Loamy sand	SM, SP-SM	A-4, A-2-4, A-2	0	0	98-100	95-100	50-90	10-40	0-14	NP
	28-33	Sandy loam, fine sandy loam, sandy clay loam	SC, SC-SM, SM	A-2, A-4, A-6	0	0	97-100	95-100	55-95	15-50	10-30	NP-15
	33-65	Sandy clay loam, clay loam, sandy clay	SC, SC-SM, SM	A-6, A-4, A-2, A-2-6	0	0	100	95-100	60-95	20-50	20-40	3-20

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
LmC:												
Lucy----------	0-7	Loamy sand	SM, SP-SM	A-4, A-2-4, A-2	0	0	98-100	95-100	50-90	10-40	0-14	NP
	7-28	Loamy sand	SM, SP-SM	A-2, A-4, A-2-4	0	0	98-100	95-100	50-90	10-40	0-14	NP
	28-33	Sandy loam, fine sandy loam, sandy clay loam	SC, SC-SM, SM	A-2, A-4, A-6	0	0	97-100	95-100	55-95	15-50	10-30	NP-15
	33-65	Sandy clay loam, clay loam, sandy clay	SC, SC-SM, SM	A-2, A-4, A-6, A-2-6	0	0	100	95-100	60-95	20-50	20-40	3-20
LnA:												
Lynchburg-------	0-9	Fine sandy loam	SM	A-4, A-2	0	0	92-100	90-100	75-100	25-55	0-15	NP
	9-18	Fine sandy loam	SM	A-2, A-4	0	0	92-100	90-100	75-100	25-55	0-15	NP
	18-22	Sandy clay loam	SC	A-6	0	0	92-100	90-100	70-100	25-67	25-50	7-25
	22-65	Sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	95-100	90-100	75-100	25-67	25-50	7-25
NaB:												
Nankin----------	0-6	Loamy fine sand	SM	A-2, A-2-4	0	0	85-100	85-100	70-90	25-45	0-14	NP
	6-39	Sandy clay, clay	CL, CL-ML, SC	A-7, A-4, A-6	0	0	98-100	95-100	75-95	40-70	25-45	7-20
	39-65	Sandy clay loam, sandy loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	98-100	95-100	70-85	25-55	20-40	4-16
NcC:												
Nankin----------	0-6	Loamy fine sand	SM	A-2, A-2-4	0	0	85-100	85-100	70-90	25-45	0-14	NP
	6-39	Sandy clay, clay	CL, CL-ML, SC	A-7, A-6, A-4	0	0	98-100	95-100	75-95	40-70	25-45	7-20
	39-65	Sandy clay loam, sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-2, A-6	0	0	98-100	95-100	70-85	25-55	20-40	4-16

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
NcC:												
Cowarts---------	0-4	Loamy sand	SM	A-2-4	0	0	95-100	90-100	75-90	20-40	0-20	NP-5
	4-9	Sandy loam, sandy clay loam	SM, SC-SM, SC	A-4, A-2	0	0	95-100	90-100	60-95	23-45	20-40	NP-15
	9-31	Sandy clay loam, sandy clay, clay loam	SC	A-7, A-2-6, A-6	0	0	95-100	90-100	60-95	25-50	20-54	5-25
	31-65	Sandy loam, sandy clay loam, clay loam	CL, SC, SM	A-4, A-7, A-6, A-2	0	0	85-100	80-100	60-95	25-58	25-53	5-20
NcD:												
Nankin----------	0-6	Loamy fine sand	SM	A-2, A-2-4	0	0	85-100	85-100	70-90	25-45	0-14	NP
	6-39	Sandy clay, clay	CL, CL-ML, SC	A-6, A-7, A-4	0	0	98-100	95-100	75-95	40-70	25-45	7-20
	39-65	Sandy clay loam, sandy loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	98-100	95-100	70-85	25-55	20-40	4-16
Cowarts---------	0-4	Loamy sand	SM	A-2-4	0	0	95-100	90-100	75-90	20-40	0-20	NP-5
	4-9	Sandy loam, sandy clay loam	SM, SC-SM, SC	A-4, A-2	0	0	95-100	90-100	60-95	23-45	20-40	NP-15
	9-31	Sandy clay loam, sandy clay, clay loam	SC	A-2-6, A-7, A-6	0	0	95-100	90-100	60-95	25-50	20-54	5-25
	31-65	Sandy loam, sandy clay loam, clay loam	CL, SC, SM	A-6, A-7, A-2, A-4	0	0	85-100	80-100	60-95	25-58	25-53	5-20
NoA:												
Norfolk---------	0-6	Loamy sand	SM	A-2, A-2-4	0	0	95-100	92-100	50-95	13-30	15-20	NP
	6-14	Sandy loam, sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	95-100	91-100	70-96	30-63	20-38	4-15
	14-65	Sandy clay loam, clay loam, sandy clay	CL, CL-ML, SC, SC-SM	A-4, A-6, A-7-6	0	0	100	98-100	65-98	36-72	25-52	4-23

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
NoB:												
Norfolk---------	0-6	Loamy sand	SM	A-2-4, A-2	0	0	95-100	92-100	50-95	13-30	15-20	NP
	6-14	Sandy loam, sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	95-100	91-100	70-96	30-63	20-38	4-15
	14-65	Sandy clay loam, clay loam, sandy clay	CL, CL-ML, SC, SC-SM	A-4, A-6, A-7-6	0	0	100	98-100	65-98	36-72	25-52	4-23
NoC:												
Norfolk---------	0-4	Loamy sand	SM	A-2-4, A-2	0	0	95-100	92-100	50-95	13-30	15-20	NP
	4-14	Sandy loam, sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-4, A-2, A-6	0	0	95-100	91-100	70-96	30-63	20-38	4-15
	14-65	Sandy clay loam, clay loam, sandy clay	CL, CL-ML, SC, SC-SM	A-4, A-7-6, A-6	0	0	100	98-100	65-98	36-72	25-52	4-23
OcA:												
Ocilla----------	0-3	Loamy fine sand	SM	A-2-4, A-3, A-2	0	0	100	95-100	75-100	8-35	0-14	NP
	3-27	Loamy sand	SM	A-3, A-2, A-2-4	0	0	100	95-100	75-100	8-35	0-14	NP
	27-55	Sandy clay loam, fine sandy loam	CL, ML, SC, SM	A-2, A-4, A-6	0	0	100	95-100	80-100	20-55	20-40	NP-18
	55-65	Sandy clay loam, sandy clay, sandy loam	SC, CL	A-7, A-6, A-4	0	0	100	95-100	80-100	36-60	20-45	7-20
OeA:												
Orangeburg------	0-8	Loamy sand	SM	A-2, A-2-4	0	0	98-100	95-100	60-87	14-28	0-14	NP
	8-13	Sandy loam	SM	A-2-4, A-2	0	0	98-100	95-100	70-96	20-35	0-30	NP-4
	13-32	Sandy clay loam, sandy loam	CL, SC, SC-SM, SM	A-4, A-6	0	0	98-100	95-100	71-96	38-58	22-40	3-19
	32-72	Sandy clay loam	CL, SC	A-4, A-6, A-7	0	0	98-100	95-100	70-97	40-65	24-46	8-21

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
OeB:												
Orangeburg------	0-8	Loamy sand	SM	A-2-4, A-2	0	0	98-100	95-100	60-87	14-28	0-14	NP
	8-13	Sandy loam	SM	A-2, A-2-4	0	0	98-100	95-100	70-96	20-35	0-30	NP-4
	13-32	Sandy clay loam, sandy loam	CL, SC, SC-SM, SM	A-6, A-4	0	0	98-100	95-100	71-96	38-58	22-40	3-19
	32-72	Sandy clay loam	CL, SC	A-4, A-6, A-7	0	0	98-100	95-100	70-97	40-65	24-46	8-21
OeC:												
Orangeburg------	0-8	Loamy sand	SM	A-2, A-2-4	0	0	98-100	95-100	60-87	14-28	0-14	NP
	8-13	Sandy loam	SM	A-2, A-2-4	0	0	98-100	95-100	70-96	20-35	0-30	NP-4
	13-32	Sandy clay loam, sandy loam	CL, SC, SC-SM, SM	A-4, A-6	0	0	98-100	95-100	71-96	38-58	22-40	3-19
	32-72	Sandy clay loam	CL, SC	A-6, A-4, A-7	0	0	98-100	95-100	70-97	40-65	24-46	8-21
OeD:												
Orangeburg------	0-8	Loamy sand	SM	A-2-4, A-2	0	0	98-100	95-100	60-87	14-28	0-14	NP
	8-13	Sandy loam	SM	A-2-4, A-2	0	0	98-100	95-100	70-96	20-35	0-30	NP-4
	13-32	Sandy clay loam, sandy loam	CL, SC, SC-SM, SM	A-4, A-6	0	0	98-100	95-100	71-96	38-58	22-40	3-19
	32-72	Sandy clay loam	CL, SC	A-4, A-6, A-7	0	0	98-100	95-100	70-97	40-65	24-46	8-21
OSA:												
Osier----------	0-8	Loamy fine sand	SM	A-2, A-2-4	0	0	100	98-100	70-90	13-25	0-14	NP
	8-55	Fine sand, loamy sand, loamy fine sand	SM	A-2, A-3, A-2-4	0	0	100	95-100	65-96	5-20	0-14	NP
	55-65	Coarse sand, sand, fine sand	SP, SP-SM	A-1, A-2-4, A-3	0	0	100	90-100	40-60	2-10	0-14	NP
Bibb----------	0-5	Loamy fine sand	CL-ML, ML, SC-SM, SM	A-4, A-2	0	0-5	95-100	90-100	60-90	30-60	0-25	NP-7
	5-45	Fine sandy loam, loam, silt loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0-10	60-100	50-100	40-100	30-90	0-30	NP-7
	45-65	Sand, fine sand, loamy sand	SM	A-2-4, A-2, A-3	0	0-5	95-100	90-100	40-90	8-35	0-14	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
PeA:												
Pelham----------	0-6	Loamy fine sand	SM	A-2, A-2-4	0	0	100	95-100	75-90	15-30	0-14	NP
	6-30	Loamy fine sand	SM	A-2, A-2-4	0	0	100	95-100	75-90	15-30	0-14	NP
	30-50	Sandy clay loam, sandy loam, fine sandy loam	SC, SC-SM, SM	A-4, A-2, A-6	0	0	100	95-100	65-90	27-50	15-30	2-12
	50-65	Sandy clay loam, sandy loam, sandy clay	CL, ML, SC, SM	A-2, A-4, A-6, A-7	0	0	100	95-100	65-90	27-65	20-45	3-20
ReA:												
Rembert---------	0-9	Sandy loam	SC-SM, SM	A-4	0	0	100	95-100	60-80	36-50	0-20	NP-7
	9-12	Sandy loam	SM, SC-SM	A-4	0	0	100	95-100	60-80	36-50	0-20	NP-7
	12-39	Clay, clay loam, sandy clay	CL, CH	A-6, A-7-6	0	0	100	98-100	85-98	55-85	35-53	15-30
	39-65	Sandy clay loam, sandy loam, loamy sand	SC, CL	A-2, A-4, A-6	0	0	100	98-100	60-90	20-50	15-35	4-15
TfA:												
Tifton----------	0-8	Loamy sand	SM, SP-SM	A-2, A-2-4	0	0	70-97	62-94	53-85	11-27	0-14	NP
	8-10	Loamy sand	SM, SP-SM	A-2, A-2-4	0	0	70-97	62-94	53-85	11-27	0-14	NP
	10-43	Sandy clay loam, gravelly sandy clay loam	CL, SC	A-2, A-4, A-6	0	0	70-98	65-94	60-89	22-53	22-40	8-22
	43-65	Sandy clay loam, sandy clay	CL, SC	A-2, A-4, A-6, A-7	0	0	87-100	80-99	50-94	34-55	24-45	8-23
TfB:												
Tifton----------	0-8	Loamy sand	SM, SP-SM	A-2-4, A-2	0	0	70-97	62-94	53-85	11-27	0-14	NP
	8-10	Loamy sand	SM, SP-SM	A-2-4, A-2	0	0	70-97	62-94	53-85	11-27	0-14	NP
	10-43	Sandy clay loam, gravelly sandy clay loam	CL, SC	A-2, A-4, A-6	0	0	70-98	65-94	60-89	22-53	22-40	8-22
	43-65	Sandy clay loam, sandy clay	CL, SC	A-4, A-6, A-7, A-2	0	0	87-100	80-99	50-94	34-55	24-45	8-23

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
TfC:												
Tifton----------	0-8	Loamy sand	SM, SP-SM	A-2-4, A-2	0	0	70-97	62-94	53-85	11-27	0-14	NP
	8-10	Loamy sand	SM, SP-SM	A-2-4, A-2	0	0	70-97	62-94	53-85	11-27	0-14	NP
	10-43	Sandy clay loam, gravelly sandy clay loam	CL, SC	A-4, A-6, A-2	0	0	70-98	65-94	60-89	22-53	22-40	8-22
	43-65	Sandy clay loam, sandy clay	CL, SC	A-7, A-2, A-4, A-6	0	0	87-100	80-99	50-94	34-55	24-45	8-23
TrB:												
Troup----------	0-8	Loamy sand	SM, SP-SM	A-2, A-2-4, A-4	0	0	95-100	90-100	50-90	10-40	0-14	NP
	8-52	Loamy sand	SM, SP-SM	A-2-4, A-4, A-2	0	0	95-100	90-100	50-90	10-40	0-14	NP
	52-80	Sandy clay loam, sandy loam, fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-2, A-6	0	0	95-100	90-100	60-90	24-55	19-40	4-20
TrD:												
Troup----------	0-8	Loamy sand	SM, SP-SM	A-2, A-4, A-2-4	0	0	95-100	90-100	50-90	10-40	0-14	NP
	8-52	Loamy sand	SP-SM, SM	A-2, A-4, A-2-4	0	0	95-100	90-100	50-90	10-40	0-14	NP
	52-80	Sandy clay loam, sandy loam, fine sandy loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	95-100	90-100	60-90	24-55	19-40	4-20
Ud:												
Udorthents, loamy.												
Up:												
Udorthents.												
Pits.												

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
UtC:												
Urban land.												
Tifton----------	0-8	Loamy sand	SM, SP-SM	A-2, A-2-4	0	0	70-97	62-94	53-85	11-27	0-14	NP
	8-10	Loamy sand	SM, SP-SM	A-2, A-2-4	0	0	70-97	62-94	53-85	11-27	0-14	NP
	10-43	Sandy clay loam, gravelly sandy clay loam	CL, SC	A-2, A-6, A-4	0	0	70-98	65-94	60-89	22-53	22-40	8-22
	43-65	Sandy clay loam, sandy clay	CL, SC	A-2, A-4, A-6, A-7	0	0	87-100	80-99	50-94	34-55	24-45	8-23
WaB:												
Wagram----------	0-6	Loamy sand	SM	A-2, A-3, A-2-4	0	0	100	98-100	50-85	8-35	10-20	NP
	6-28	Loamy sand, sandy loam	SM	A-2, A-2-4	0	0	100	98-100	50-85	8-35	10-20	NP
	28-80	Sandy loam	SC, SC-SM	A-6, A-7, A-4	0	0	100	98-100	60-95	31-49	21-41	8-25
WhA:												
Wahee----------	0-6	Fine sandy loam	SM, SC-SM	A-2, A-4	0	0	100	95-100	50-98	30-50	0-28	NP-7
	6-65	Sandy clay, clay loam, silty clay	CH, CL	A-7, A-6	0	0	100	100	85-100	51-92	38-81	16-54

Table 17.--Water Features

[Depths of layers are in feet. See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Hydrologic group	Months	Water table		Ponding			Flooding	
			Upper limit	Kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft		*Ft*				
BgB:									
Bigbee----------	A	Jan-Mar	3.5-6.0	Apparent	---	---	None	Brief	Rare
		Apr-Dec	>6.0	---	---	---	None	---	None
BlB:									
Blanton---------	A	Jan-Mar	4.0-6.0	Perched	---	---	None	---	None
		Apr-Nov	>6.0	---	---	---	None	---	None
		Dec	4.0-6.0	Perched	---	---	None	---	None
BlD:									
Blanton---------	A	Jan-Mar	4.0-6.0	Perched	---	---	None	---	None
		Apr-Nov	>6.0	---	---	---	None	---	None
		Dec	4.0-6.0	Perched	---	---	None	---	None
BoB:									
Bonneau---------	A	Jan-Mar	3.5-5.0	Perched	---	---	None	---	None
		Apr-Nov	>6.0	---	---	---	None	---	None
		Dec	3.5-5.0	Perched	---	---	None	---	None
BoD:									
Bonneau---------	A	Jan-Mar	3.5-5.0	Perched	---	---	None	---	None
		Apr-Nov	>6.0	---	---	---	None	---	None
		Dec	3.5-5.0	Perched	---	---	None	---	None
CaB:									
Carnegie--------	C	Jan-Dec	>6.0	---	---	---	None	---	None
CaC:									
Carnegie--------	C	Jan-Dec	>6.0	---	---	---	None	---	None
CgC:									
Cowarts---------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Gritney---------	C	Jan-Apr	1.5-3.0	Perched	---	---	None	---	None
		May-Nov	>6.0	---	---	---	None	---	None
		Dec	1.5-3.0	Perched	---	---	None	---	None
CgD:									
Cowarts---------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Gritney---------	C	Jan-Apr	1.5-3.0	Perched	---	---	None	---	None
		May-Nov	>6.0	---	---	---	None	---	None
		Dec	1.5-3.0	Perched	---	---	None	---	None
DoA:									
Dothan----------	B	Jan-Mar	3.0-5.0	Perched	---	---	None	---	None
		Apr-Dec	>6.0	---	---	---	None	---	None
DoB:									
Dothan----------	B	Jan-Mar	3.0-5.0	Perched	---	---	None	---	None
		Apr-Dec	>6.0	---	---	---	None	---	None
FeA:									
Faceville-------	B	Jan-Dec	>6.0	---	---	---	None	---	None
FeB:									
Faceville-------	B	Jan-Dec	>6.0	---	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table		Ponding			Flooding	
			Upper limit	Kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft		*Ft*				
FeC:									
Faceville-------	B	Jan-Dec	>6.0	---	---	---	None	---	None
FuB:									
Fuquay----------	B	Jan-Mar	4.0-6.0	Perched	---	---	None	---	None
		Apr-Dec	---	---	---	---	None	---	None
GoA:									
Goldsboro-------	B	Jan-Apr	2.0-3.0	Apparent	---	---	None	---	None
		May-Nov	>6.0	---	---	---	None	---	None
		Dec	2.0-3.0	Apparent	---	---	None	---	None
GrA:									
Grady-----------	D	Jan-Jun	0.0-1.0	Apparent	0.0-2.0	Long	Frequent	---	None
		Jul-Nov	>6.0	---	---	---	None	---	None
		Dec	0.0-1.0	Apparent	0.0-2.0	Long	Frequent	---	None
HvA:									
Hornsville------	C	Jan-Apr	2.5-3.5	Apparent	---	---	None	---	None
		May-Nov	>6.0	---	---	---	None	---	None
		Dec	2.5-3.5	Apparent	---	---	None	---	None
LkB:									
Lakeland--------	A	Jan-Dec	>6.0	---	---	---	None	---	None
LkD:									
Lakeland--------	A	Jan-Dec	>6.0	---	---	---	None	---	None
LmB:									
Lucy------------	A	Jan-Dec	>6.0	---	---	---	None	---	None
LmC:									
Lucy------------	A	Jan-Dec	>6.0	---	---	---	None	---	None
LnA:									
Lynchburg-------	C	Jan-Apr	0.5-1.5	Apparent	---	---	None	---	None
		May-Nov	>6.0	---	---	---	None	---	None
		Dec	0.5-1.5	Apparent	---	---	None	---	None
NaB:									
Nankin----------	C	Jan-Dec	>6.0	---	---	---	None	---	None
NcC:									
Nankin----------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Cowarts---------	C	Jan-Dec	>6.0	---	---	---	None	---	None
NcD:									
Nankin----------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Cowarts---------	C	Jan-Dec	>6.0	---	---	---	None	---	None
NoA:									
Norfolk---------	B	Jan-Mar	4.0-6.0	Perched	---	---	None	---	None
		Apr-Dec	>6.0	---	---	---	None	---	None
NoB:									
Norfolk---------	B	Jan-Mar	4.0-6.0	Perched	---	---	None	---	None
		Apr-Dec	>6.0	---	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table		Ponding			Flooding	
			Upper limit	Kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft		*Ft*				
NoC:									
Norfolk	B	Jan-Mar	4.0-6.0	Perched	---	---	None	---	None
		Apr-Dec	>6.0	---	---	---	None	---	None
OcA:									
Ocilla	C	Jan-Apr	1.0-2.5	Apparent	---	---	None	---	None
		May-Nov	>6.0	---	---	---	None	---	None
		Dec	1.0-2.5	Apparent	---	---	None	---	None
OeA:									
Orangeburg	B	Jan-Dec	>6.0	---	---	---	None	---	None
OeB:									
Orangeburg	B	Jan-Dec	>6.0	---	---	---	None	---	None
OeC:									
Orangeburg	B	Jan-Dec	>6.0	---	---	---	None	---	None
OeD:									
Orangeburg	B	Jan-Dec	>6.0	---	---	---	None	---	None
OSA:									
Osier	A/D	Jan-Mar	0.0-0.5	Apparent	---	---	None	Long	Frequent
		Apr	>6.0	---	---	---	None	Long	Frequent
		May-Oct	>6.0	---	---	---	None	---	None
		Nov-Dec	0.0-0.5	Apparent	---	---	None	Long	Frequent
Bibb	D	Jan-Apr	0.5-1.0	Apparent	---	---	None	Long	Frequent
		May	>6.0	---	---	---	None	Long	Frequent
		Jun-Nov	>6.0	---	---	---	None	---	None
		Dec	0.5-1.0	Apparent	---	---	None	Long	Frequent
PeA:									
Pelham	B/D	Jan-Apr	0.0-1.0	Apparent	---	---	None	Brief	Frequent
		May-Dec	>6.0	---	---	---	None	---	None
ReA:									
Rembert	D	Jan-Apr	0.0-1.0	Apparent	0.0-1.0	Brief	Frequent	Brief	Frequent
		May-Nov	>6.0	---	---	---	None	---	None
		Dec	0.0-1.0	Apparent	0.0-1.0	Brief	Frequent	Brief	Frequent
TfA:									
Tifton	B	Jan-Mar	3.5-5.0	Perched	---	---	None	---	None
		Apr-Dec	>6.0	---	---	---	None	---	None
TfB:									
Tifton	B	Jan-Mar	3.5-5.0	Perched	---	---	None	---	None
		Apr-Dec	>6.0	---	---	---	None	---	None
TfC:									
Tifton	B	Jan-Mar	3.5-5.0	Perched	---	---	None	---	None
		Apr-Dec	>6.0	---	---	---	None	---	None
TrB:									
Troup	A	Jan-Dec	>6.0	---	---	---	None	---	None
TrD:									
Troup	A	Jan-Dec	>6.0	---	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table		Ponding			Flooding	
			Upper limit	Kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft		*Ft*				
Ud:									
Udorthents, loamy----------	---	Jan-Dec	>6.0	---	---	---	None	---	None
Up:									
Udorthents------	---	Jan-Dec	>6.0	---	---	---	None	---	None
UtC:									
Urban land------	---	Jan-Dec	>6.0	---	---	---	None	---	None
Tifton----------	B	Jan-Mar	3.5-6.0	Perched	---	---	None	---	None
		Apr-Dec	---	---	---	---	None	---	None
WaB:									
Wagram----------	A	Jan-Dec	>6.0	---	---	---	None	---	None
WhA:									
Wahee-----------	D	Jan-Mar	0.5-1.5	Apparent	---	---	None	Brief	Occasional
		Apr-Nov	>6.0	---	---	---	None	---	None
		Dec	0.5-1.5	Apparent	---	---	None	Brief	Occasional

Table 18.--Selected Physical and Chemical Properties of the Soils

[Entries under "Erosion factors--T" apply to the entire profile. Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*pH*	*Pct*			
BgB:											
Bigbee	0-5	4-10	1.40-1.50	6-20	0.05-0.10	0.0-2.9	4.5-6.0	0.5-2.0	.10	.10	5
	5-28	1-10	1.40-1.50	6-20	0.05-0.08	0.0-2.9	4.5-6.0	0.5-0.8	.17	.17	
	28-62	1-10	1.40-1.50	6-20	0.05-0.08	0.0-2.9	4.5-6.0	0.0-0.5	.17	.17	
BlB:											
Blanton	0-10	5-13	1.35-1.60	6-20	0.05-0.10	0.0-2.9	4.5-6.0	0.5-2.0	.10	.10	5
	10-61	5-13	1.35-1.60	6-20	0.05-0.10	0.0-2.9	4.5-6.0	0.0-0.5	.10	.10	
	61-68	10-18	1.50-1.65	2-6	0.10-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.15	.15	
	68-80	12-40	1.60-1.70	0.2-2	0.10-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.20	.20	
BlD:											
Blanton	0-10	5-13	1.35-1.60	6-20	0.05-0.10	0.0-2.9	4.5-6.0	0.5-2.0	.10	.10	5
	10-61	5-13	1.35-1.60	6-20	0.05-0.10	0.0-2.9	4.5-6.0	0.0-0.5	.10	.10	
	61-68	10-18	1.50-1.65	2-6	0.10-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.15	.15	
	68-80	12-40	1.60-1.70	0.2-2	0.10-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.20	.20	
BoB:											
Bonneau	0-10	5-15	1.30-1.70	6-20	0.05-0.11	0.0-2.9	4.5-6.0	0.5-2.0	.10	.10	5
	10-31	5-15	1.30-1.70	6-20	0.05-0.11	0.0-2.9	4.5-6.0	0.0-0.5	.10	.10	
	31-39	13-35	1.40-1.60	0.6-2	0.10-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.20	.20	
	39-72	15-40	1.40-1.60	0.6-2	0.10-0.16	0.0-2.9	4.5-5.5	0.0-0.2	.20	.20	
BoD:											
Bonneau	0-10	5-15	1.30-1.70	6-20	0.05-0.11	0.0-2.9	4.5-6.0	0.5-2.0	.10	.10	5
	10-31	5-15	1.30-1.70	6-20	0.05-0.11	0.0-2.9	4.5-6.0	0.0-0.5	.10	.10	
	31-39	13-35	1.40-1.60	0.6-2	0.10-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.20	.20	
	39-72	15-40	1.40-1.60	0.6-2	0.10-0.16	0.0-2.9	4.5-5.5	0.0-0.2	.20	.20	
CaB:											
Carnegie	0-6	3-8	1.45-1.65	2-6	0.05-0.10	0.0-2.9	4.5-6.0	1.0-2.0	.28	.28	3
	6-20	36-43	1.40-1.65	0.2-0.6	0.10-0.16	0.0-2.9	3.6-5.5	0.0-0.5	.32	.32	
	20-45	36-51	1.40-1.65	0.2-0.6	0.10-0.14	0.0-2.9	3.6-5.5	0.0-0.2	.28	.28	
	45-65	36-55	1.40-1.65	0.2-0.6	0.10-0.14	0.0-2.9	3.6-5.5	0.0-0.2	.28	.28	
CaC:											
Carnegie	0-6	3-8	1.45-1.65	2-6	0.05-0.10	0.0-2.9	4.5-6.0	1.0-2.0	.28	.28	3
	6-20	36-43	1.40-1.65	0.2-0.6	0.10-0.16	0.0-2.9	3.6-5.5	0.0-0.5	.32	.32	
	20-45	36-51	1.40-1.65	0.2-0.6	0.10-0.14	0.0-2.9	3.6-5.5	0.0-0.2	.28	.28	
	45-65	36-55	1.40-1.65	0.2-0.6	0.10-0.14	0.0-2.9	3.6-5.5	0.0-0.2	.28	.28	
CgC:											
Cowarts	0-4	5-20	1.30-1.65	2-6	0.08-0.13	0.0-2.9	4.5-5.5	1.0-3.0	.15	.15	4
	4-9	5-20	1.30-1.50	0.6-2	0.10-0.16	0.0-2.9	4.5-5.5	0.2-1.0	.28	.28	
	9-31	25-40	1.30-1.50	0.2-2	0.10-0.16	0.0-2.9	4.5-5.5	0.0-0.2	.28	.28	
	31-65	18-35	1.65-1.80	0.06-0.6	0.10-0.14	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
Gritney	0-8	5-20	1.30-1.50	2-6	0.08-0.12	0.0-2.9	3.5-6.0	0.5-2.0	.15	.15	4
	8-49	35-60	1.30-1.50	0.06-0.2	0.10-0.17	3.0-5.9	3.5-5.5	0.0-0.5	.32	.32	
	49-65	10-35	1.30-1.50	0.06-6	0.06-0.12	0.0-2.9	3.5-5.5	0.0-0.1	.28	.28	
CgD:											
Cowarts	0-4	5-20	1.30-1.65	2-6	0.08-0.13	0.0-2.9	4.5-5.5	1.0-3.0	.15	.15	4
	4-9	5-20	1.30-1.50	0.6-2	0.10-0.16	0.0-2.9	4.5-5.5	0.2-1.0	.28	.28	
	9-31	25-40	1.30-1.50	0.2-2	0.10-0.16	0.0-2.9	4.5-5.5	0.0-0.2	.28	.28	
	31-65	18-35	1.65-1.80	0.06-0.6	0.10-0.14	0.0-2.9	4.5-5.5	0.0-0.5	.24	.24	

Table 18.--Selected Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*pH*	*Pct*			
CgD:											
Gritney	0-8	5-20	1.30-1.50	2-6	0.08-0.12	0.0-2.9	3.5-6.0	0.5-2.0	.15	.15	4
	8-49	35-60	1.30-1.50	0.06-0.2	0.10-0.17	3.0-5.9	3.5-5.5	0.0-0.5	.32	.32	
	49-65	10-35	1.30-1.50	0.06-6	0.06-0.12	0.0-2.9	3.5-5.5	0.0-0.1	.28	.28	
DoA:											
Dothan	0-12	5-15	1.30-1.60	2-6	0.06-0.10	0.0-2.9	4.5-6.0	0.0-0.5	.15	.15	5
	12-48	18-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.2	.28	.28	
	48-65	18-40	1.45-1.70	0.2-0.6	0.08-0.12	0.0-2.9	4.5-6.0	0.0-0.2	.28	.28	
DoB:											
Dothan	0-12	5-15	1.30-1.60	2-6	0.06-0.10	0.0-2.9	4.5-6.0	0.0-0.5	.15	.15	5
	12-48	18-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.2	.28	.28	
	48-65	18-40	1.45-1.70	0.2-0.6	0.08-0.12	0.0-2.9	4.5-6.0	0.0-0.2	.28	.28	
FeA:											
Faceville	0-4	5-20	1.40-1.65	6-20	0.06-0.09	0.0-2.9	4.5-5.5	0.5-2.0	.28	.28	5
	4-7	20-36	1.35-1.60	0.6-2	0.12-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.37	.37	
	7-65	35-55	1.25-1.60	0.6-2	0.12-0.18	0.0-2.9	4.5-6.0	0.0-0.2	.37	.37	
FeB:											
Faceville	0-4	5-20	1.40-1.65	6-20	0.06-0.09	0.0-2.9	4.5-5.5	0.5-2.0	.28	.28	5
	4-7	20-36	1.35-1.60	0.6-2	0.12-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.37	.37	
	7-65	35-55	1.25-1.60	0.6-2	0.12-0.18	0.0-2.9	4.5-6.0	0.0-0.2	.37	.37	
FeC:											
Faceville	0-4	5-20	1.40-1.65	6-20	0.06-0.09	0.0-2.9	4.5-5.5	0.5-2.0	.28	.28	5
	4-7	20-36	1.35-1.60	0.6-2	0.12-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.37	.37	
	7-65	35-55	1.25-1.60	0.6-2	0.12-0.18	0.0-2.9	4.5-6.0	0.0-0.2	.37	.37	
FuB:											
Fuquay	0-8	2-10	1.60-1.70	6-20	0.04-0.09	0.0-2.9	4.5-6.0	0.5-2.0	.15	.15	5
	8-32	2-10	1.60-1.70	6-20	0.04-0.09	0.0-2.9	4.5-6.0	0.0-0.5	.15	.15	
	32-40	10-35	1.40-1.60	0.6-2	0.12-0.15	0.0-2.9	4.5-6.0	0.0-0.2	.20	.20	
	40-65	20-35	1.40-1.60	0.06-0.2	0.10-0.13	0.0-2.9	4.5-6.0	0.0-0.2	.20	.20	
GoA:											
Goldsboro	0-5	2-8	1.55-1.75	6-20	0.06-0.11	0.0-2.9	3.5-5.5	0.5-2.0	.17	.17	5
	5-10	2-8	1.55-1.75	6-20	0.06-0.11	0.0-2.9	3.5-5.5	0.0-0.5	.17	.17	
	10-17	18-30	1.30-1.50	0.6-2	0.11-0.17	0.0-2.9	3.5-5.5	0.0-0.5	.24	.24	
	17-65	20-36	1.30-1.40	0.6-2	0.11-0.20	0.0-2.9	3.5-5.5	0.0-0.5	.24	.24	
GrA:											
Grady	0-6	15-20	1.25-1.45	0.6-2	0.10-0.15	0.0-2.9	3.6-5.5	1.0-4.0	.10	.10	5
	6-40	45-65	1.50-1.60	0.06-0.2	0.12-0.16	0.0-2.9	3.6-5.5	0.5-0.8	.10	.10	
	40-65	45-65	1.50-1.60	0.06-0.2	0.12-0.16	3.0-5.9	3.6-5.5	0.0-0.5	.10	.10	
HvA:											
Hornsville	0-6	6-15	1.45-1.65	6-20	0.08-0.12	0.0-2.9	3.6-6.0	1.0-4.0	.20	.20	3
	6-10	6-15	1.45-1.65	6-20	0.08-0.12	0.0-2.9	3.6-6.0	0.0-0.5	.20	.20	
	10-28	35-60	1.55-1.70	0.2-0.6	0.12-0.16	0.0-2.9	3.6-6.0	0.0-0.2	.28	.28	
	28-65	12-35	1.55-1.70	0.6-2	0.10-0.14	0.0-2.9	3.6-6.0	0.0-0.2	.24	.24	
LkB:											
Lakeland	0-9	2-8	1.35-1.65	6-20	0.05-0.09	0.0-2.9	4.5-6.0	0.5-1.0	.10	.10	5
	9-80	1-6	1.50-1.60	6-20	0.02-0.08	0.0-2.9	4.5-6.0	0.0-0.2	.10	.10	
LkD:											
Lakeland	0-9	2-8	1.35-1.65	6-20	0.05-0.09	0.0-2.9	4.5-6.0	0.5-1.0	.10	.10	5
	9-80	1-6	1.50-1.60	6-20	0.02-0.08	0.0-2.9	4.5-6.0	0.0-0.2	.10	.10	

Table 18.--Selected Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*pH*	*Pct*			
LmB:											
Lucy	0-7	1-12	1.30-1.70	6-20	0.08-0.12	0.0-2.9	5.1-6.0	0.5-1.0	.10	.10	5
	7-28	1-12	1.30-1.70	6-20	0.08-0.12	0.0-2.9	5.1-6.0	0.0-0.5	.10	.10	
	28-33	10-30	1.40-1.60	2-6	0.10-0.12	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
	33-65	20-45	1.40-1.60	0.6-2	0.12-0.14	0.0-2.9	4.5-5.5	0.0-0.2	.28	.28	
LmC:											
Lucy	0-7	1-12	1.30-1.70	6-20	0.08-0.12	0.0-2.9	5.1-6.0	0.5-1.0	.10	.10	5
	7-28	1-12	1.30-1.70	6-20	0.08-0.12	0.0-2.9	5.1-6.0	0.0-0.5	.10	.10	
	28-33	10-30	1.40-1.60	2-6	0.10-0.12	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
	33-65	20-45	1.40-1.60	0.6-2	0.12-0.14	0.0-2.9	4.5-5.5	0.0-0.2	.28	.28	
LnA:											
Lynchburg	0-9	5-20	1.30-1.45	2-6	0.09-0.13	0.0-2.9	3.5-5.5	0.5-3.0	.20	.20	5
	9-18	5-20	1.30-1.45	2-6	0.09-0.13	0.0-2.9	3.5-5.5	0.0-0.5	.20	.20	
	18-22	18-35	1.30-1.45	0.6-2	0.12-0.16	0.0-2.9	3.6-5.5	0.0-0.5	.20	.20	
	22-65	20-50	1.30-1.50	0.6-2	0.12-0.16	0.0-2.9	3.6-5.5	0.0-0.5	.20	.20	
NaB:											
Nankin	0-6	7-12	1.45-1.65	2-6	0.08-0.12	0.0-2.9	4.5-5.5	0.5-1.0	.28	.28	3
	6-39	35-50	1.30-1.70	0.2-0.6	0.11-0.16	0.0-2.9	4.5-5.5	0.0-0.5	.24	.24	
	39-65	15-35	1.60-1.70	0.6-2	0.10-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
NcC:											
Nankin	0-6	7-12	1.45-1.65	2-6	0.08-0.12	0.0-2.9	4.5-5.5	0.5-1.0	.28	.28	3
	6-39	35-50	1.30-1.70	0.2-0.6	0.11-0.16	0.0-2.9	4.5-5.5	0.0-0.5	.24	.24	
	39-65	15-35	1.60-1.70	0.6-2	0.10-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
Cowarts	0-4	5-20	1.30-1.65	2-6	0.08-0.13	0.0-2.9	4.5-5.5	1.0-3.0	.15	.15	4
	4-9	5-20	1.30-1.50	0.6-2	0.10-0.16	0.0-2.9	4.5-5.5	0.2-1.0	.28	.28	
	9-31	25-40	1.30-1.50	0.2-2	0.10-0.16	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	31-65	18-35	1.65-1.80	0.06-0.6	0.10-0.14	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
NcD:											
Nankin	0-6	7-12	1.45-1.65	2-6	0.08-0.12	0.0-2.9	4.5-5.5	0.5-1.0	.28	.28	3
	6-39	35-50	1.30-1.70	0.2-0.6	0.11-0.16	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
	39-65	15-35	1.60-1.70	0.6-2	0.10-0.15	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
Cowarts	0-4	5-20	1.30-1.65	2-6	0.08-0.13	0.0-2.9	4.5-5.5	1.0-3.0	.15	.15	4
	4-9	5-20	1.30-1.50	0.6-2	0.10-0.16	0.0-2.9	4.5-5.5	0.2-1.0	.28	.28	
	9-31	25-40	1.30-1.50	0.2-2	0.10-0.16	0.0-2.9	4.5-5.5	0.0-0.2	.28	.28	
	31-65	18-35	1.65-1.80	0.06-0.6	0.10-0.14	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
NoA:											
Norfolk	0-6	2-8	1.55-1.70	6-20	0.06-0.11	0.0-2.9	3.5-6.0	0.5-2.0	.17	.17	5
	6-14	18-35	1.30-1.65	0.6-2	0.10-0.18	0.0-2.9	3.5-5.5	0.0-0.5	.24	.24	
	14-65	20-43	1.20-1.65	0.6-2	0.12-0.18	0.0-2.9	3.5-5.5	0.0-0.5	.24	.24	
NoB:											
Norfolk	0-6	2-8	1.55-1.70	6-20	0.06-0.11	0.0-2.9	3.5-6.0	0.5-2.0	.17	.17	5
	6-14	18-35	1.30-1.65	0.6-2	0.10-0.18	0.0-2.9	3.5-5.5	0.0-0.5	.24	.24	
	14-65	20-43	1.20-1.65	0.6-2	0.12-0.18	0.0-2.9	3.5-5.5	0.0-0.5	.24	.24	
NoC:											
Norfolk	0-4	2-8	1.55-1.70	6-20	0.06-0.11	0.0-2.9	3.5-6.0	0.5-2.0	.17	.17	5
	4-14	18-35	1.30-1.65	0.6-2	0.10-0.18	0.0-2.9	3.5-5.5	0.0-0.5	.24	.24	
	14-65	20-43	1.20-1.65	0.6-2	0.12-0.18	0.0-2.9	3.5-5.5	0.0-0.5	.24	.24	
OcA:											
Ocilla	0-3	4-10	1.45-1.65	2-20	0.05-0.08	0.0-2.9	4.5-5.5	1.0-2.0	.10	.10	5
	3-27	4-10	1.45-1.65	2-20	0.05-0.08	0.0-2.9	4.5-5.5	0.5-0.8	.10	.10	
	27-55	15-35	1.55-1.70	0.6-2	0.09-0.12	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
	55-65	15-40	1.55-1.70	0.2-2	0.09-0.12	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	

Table 18.--Selected Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*pH*	*Pct*			
OeA:											
Orangeburg--------	0-8	4-10	1.35-1.55	2-6	0.06-0.09	0.0-2.9	4.5-6.0	0.5-1.0	.10	.10	5
	8-13	7-18	1.50-1.65	2-6	0.09-0.12	0.0-2.9	4.5-6.0	0.0-0.5	.20	.20	
	13-32	18-35	1.60-1.75	0.6-2	0.11-0.14	0.0-2.9	4.5-5.5	0.0-0.5	.24	.24	
	32-72	20-45	1.60-1.75	0.6-2	0.11-0.14	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
OeB:											
Orangeburg--------	0-8	4-10	1.35-1.55	2-6	0.06-0.09	0.0-2.9	4.5-6.0	0.5-1.0	.10	.10	5
	8-13	7-18	1.50-1.65	2-6	0.09-0.12	0.0-2.9	4.5-6.0	0.0-0.5	.20	.20	
	13-32	18-35	1.60-1.75	0.6-2	0.11-0.14	0.0-2.9	4.5-5.5	0.0-0.5	.24	.24	
	32-72	20-45	1.60-1.75	0.6-2	0.11-0.14	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
OeC:											
Orangeburg--------	0-8	4-10	1.35-1.55	2-6	0.06-0.09	0.0-2.9	4.5-6.0	0.5-1.0	.10	.10	5
	8-13	7-18	1.50-1.65	2-6	0.09-0.12	0.0-2.9	4.5-6.0	0.0-0.5	.20	.20	
	13-32	18-35	1.60-1.75	0.6-2	0.11-0.14	0.0-2.9	4.5-5.5	0.0-0.5	.24	.24	
	32-72	20-45	1.60-1.75	0.6-2	0.11-0.14	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
OeD:											
Orangeburg--------	0-8	4-10	1.35-1.55	2-6	0.06-0.09	0.0-2.9	4.5-6.0	0.5-1.0	.10	.10	5
	8-13	7-18	1.50-1.65	2-6	0.09-0.12	0.0-2.9	4.5-6.0	0.0-0.5	.20	.20	
	13-32	18-35	1.60-1.75	0.6-2	0.11-0.14	0.0-2.9	4.5-5.5	0.0-0.5	.24	.24	
	32-72	20-45	1.60-1.75	0.6-2	0.11-0.14	0.0-2.9	4.5-5.5	0.0-0.2	.24	.24	
OSA:											
Osier-------------	0-8	10-15	1.35-1.60	6-20	0.10-0.15	0.0-2.9	3.6-6.0	2.0-5.0	.15	.15	5
	8-55	1-10	1.40-1.60	6-20	0.03-0.10	0.0-2.9	3.6-6.0	0.5-0.8	.10	.10	
	55-65	2-5	1.40-1.60	20-20	0.02-0.05	0.0-2.9	3.6-6.0	0.0-0.5	.05	.05	
Bibb--------------	0-5	2-18	1.50-1.70	0.6-2	0.12-0.18	0.0-2.9	3.6-5.5	1.0-3.0	.20	.20	5
	5-45	2-18	1.45-1.75	0.6-2	0.10-0.20	0.0-2.9	3.6-5.5	0.5-1.0	.20	.20	
	45-65	2-12	1.60-1.75	2-6	0.06-0.10	0.0-2.9	3.6-5.5	0.0-0.5	.37	.37	
PeA:											
Pelham------------	0-6	5-10	1.50-1.70	6-20	0.05-0.08	0.0-2.9	3.6-5.5	1.0-2.0	.10	.10	5
	6-30	5-10	1.50-1.70	6-20	0.05-0.08	0.0-2.9	3.6-5.5	0.0-0.5	.10	.10	
	30-50	15-30	1.30-1.60	0.6-2	0.10-0.13	0.0-2.9	3.5-5.5	0.0-0.5	.24	.24	
	50-65	15-40	1.30-1.60	0.2-2	0.10-0.16	0.0-2.9	3.5-5.5	0.0-0.5	.24	.24	
ReA:											
Rembert-----------	0-9	5-18	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	4.5-6.5	1.0-5.0	.20	.20	5
	9-12	5-18	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	4.5-5.5	0.0-0.5	.20	.20	
	12-39	35-60	1.30-1.50	0.06-0.2	0.12-0.16	0.0-2.9	4.5-5.5	0.0-0.5	.17	.17	
	39-65	8-25	1.30-1.60	0.6-6	0.07-0.12	0.0-2.9	4.5-5.5	0.0-0.5	.17	.17	
TfA:											
Tifton------------	0-8	3-8	1.30-1.55	6-20	0.03-0.08	0.0-2.9	4.5-6.0	0.5-1.0	.10	.15	4
	8-10	3-8	1.30-1.55	6-20	0.03-0.08	0.0-2.9	4.5-6.0	0.0-0.5	.10	.15	
	10-43	20-35	1.50-1.70	0.6-2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.2	.24	.28	
	43-65	25-40	1.55-1.80	0.2-0.6	0.10-0.13	0.0-2.9	4.5-5.5	0.0-0.2	.17	.17	
TfB:											
Tifton------------	0-8	3-8	1.30-1.55	6-20	0.03-0.08	0.0-2.9	4.5-6.0	0.5-1.0	.10	.15	4
	8-10	3-8	1.30-1.55	6-20	0.03-0.08	0.0-2.9	4.5-6.0	0.0-0.5	.10	.15	
	10-43	20-35	1.50-1.70	0.6-2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.2	.24	.28	
	43-65	25-40	1.55-1.80	0.2-0.6	0.10-0.13	0.0-2.9	4.5-5.5	0.0-0.2	.17	.17	
TfC:											
Tifton------------	0-8	3-8	1.30-1.55	6-20	0.03-0.08	0.0-2.9	4.5-6.0	0.5-1.0	.10	.15	4
	8-10	3-8	1.30-1.55	6-20	0.03-0.08	0.0-2.9	4.5-6.0	0.0-0.5	.10	.15	
	10-43	20-35	1.50-1.70	0.6-2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.2	.24	.28	
	43-65	25-40	1.55-1.80	0.2-0.6	0.10-0.13	0.0-2.9	4.5-5.5	0.0-0.2	.17	.17	

Table 18.--Selected Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*pH*	*Pct*			
TrB:											
Troup	0-8	2-12	1.30-1.70	6-20	0.08-0.12	0.0-2.9	4.5-6.0	0.5-1.0	.10	.10	5
	8-52	2-12	1.30-1.70	6-20	0.08-0.12	0.0-2.9	4.5-6.0	0.0-0.5	.10	.10	
	52-80	15-35	1.40-1.60	0.6-2	0.10-0.13	0.0-2.9	4.5-5.5	0.0-0.2	.20	.20	
TrD:											
Troup	0-8	2-12	1.30-1.70	6-20	0.08-0.12	0.0-2.9	4.5-6.0	0.5-1.0	.10	.10	5
	8-52	2-12	1.30-1.70	6-20	0.08-0.12	0.0-2.9	4.5-6.0	0.0-0.5	.10	.10	
	52-80	15-35	1.40-1.60	0.6-2	0.10-0.13	0.0-2.9	4.5-5.5	0.0-0.2	.20	.20	
Ud:											
Udorthents, loamy.											
Up:											
Udorthents.											
Pits.											
UtC:											
Urban land.											
Tifton	0-8	3-8	1.30-1.55	6-20	0.03-0.08	0.0-2.9	4.5-6.0	0.5-1.0	.10	.15	4
	8-10	3-8	1.30-1.55	6-20	0.03-0.08	0.0-2.9	4.5-6.0	0.0-0.5	.10	.15	
	10-43	20-35	1.50-1.70	0.6-2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.2	.24	.28	
	43-65	25-40	1.55-1.80	0.2-0.6	0.10-0.13	0.0-2.9	4.5-5.5	0.0-0.2	.17	.17	
WaB:											
Wagram	0-6	2-10	1.60-1.75	6-20	0.05-0.08	0.0-2.9	4.5-6.0	0.5-2.0	.15	.15	5
	6-28	2-10	1.60-1.75	6-20	0.05-0.08	0.0-2.9	4.5-6.0	0.0-0.5	.15	.15	
	28-80	10-35	1.35-1.60	0.6-2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.20	.20	
WhA:											
Wahee	0-6	5-20	1.30-1.60	0.6-2	0.10-0.15	0.0-2.9	4.5-6.0	0.5-5.0	.24	.24	5
	6-65	35-70	1.40-1.60	0.06-0.2	0.12-0.20	3.0-5.9	3.6-5.5	0.0-0.5	.28	.28	

Table 19.--Classification of the Soils

Soil name	Family or higher taxonomic class
Bibb	Coarse-loamy, siliceous, active, acid, thermic Typic Fluvaquents
Bigbee	Thermic, coated Typic Quartzipsamments
Blanton	Loamy, siliceous, semiactive, thermic Grossarenic Paleudults
Bonneau	Loamy, siliceous, subactive, thermic Arenic Paleudults
Carnegie	Fine, kaolinitic, thermic Plinthic Kandiudults
Cowarts	Fine-loamy, kaolinitic, thermic Typic Kanhapludults
Dothan	Fine-loamy, kaolinitic, thermic Plinthic Kandiudults
Faceville	Fine, kaolinitic, thermic Typic Kandiudults
Fuquay	Loamy, kaolinitic, thermic Arenic Kandiudults
Goldsboro	Fine-loamy, siliceous, subactive, thermic Aquic Paleudults
Grady	Fine, kaolinitic, thermic Typic Paleaquults
Gritney	Fine, mixed, semiactive, thermic Aquic Hapludults
Hornsville	Fine, kaolinitic, thermic Aquic Hapludults
Lakeland	Thermic, coated Typic Quartzipsamments
Lucy	Loamy, kaolinitic, thermic Arenic Kandiudults
Lynchburg	Fine-loamy, siliceous, semiactive, thermic Aeric Paleaquults
Nankin	Fine, kaolinitic, thermic Typic Kanhapludults
Norfolk	Fine-loamy, kaolinitic, thermic Typic Kandiudults
Ocilla	Loamy, siliceous, semiactive, thermic Aquic Arenic Paleudults
Orangeburg	Fine-loamy, kaolinitic, thermic Typic Kandiudults
Osier	Siliceous, thermic Typic Psammaquents
Pelham	Loamy, siliceous, subactive, thermic Arenic Paleaquults
Rembert	Fine, kaolinitic, thermic Typic Endoaquults
Tifton	Fine-loamy, kaolinitic, thermic Plinthic Kandiudults
Troup	Loamy, kaolinitic, thermic Grossarenic Kandiudults
Wagram	Loamy, kaolinitic, thermic Arenic Kandiudults
Wahee	Fine, mixed, semiactive, thermic Aeric Endoaquults

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MITCHELL COUNTY

84°20'00"

84°10'00"

31°00'00"

30°50'00"

N

DECATUR COUNTY

THOMAS COUNTY

GADSDEN COUNTY

LEON COUNTY

FLORIDA

Whigham

Cairo

Kelly Creek

Barnetts Creek

Bre Branch

West Bromley

Little Tired Creek

Sopp Creek

Black Creek

Buss Creek

Wolf Creek

Turkey Creek

Tiger Creek

Tired Creek

Brumbley Creek

Ochlockonee River

Lees Creek

Swamp Creek

Bryants Mill Cr

Shaw Creek

112 93 84 111 188 319

SOIL LEGEND*

1	Bonneau-Blanton
2	Rembert-Bonneau
3	Tifton-Dothan-Nankin
4	Faceville-Tifton-Nankin
5	Osier-Bibb
6	Orangeburg-Nankin-Faceville
7	Cowarts-Gritney-Tifton

Compiled 2001

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
UNIVERSITY OF GEORGIA
COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES
AGRICULTURAL EXPERIMENT STATIONS

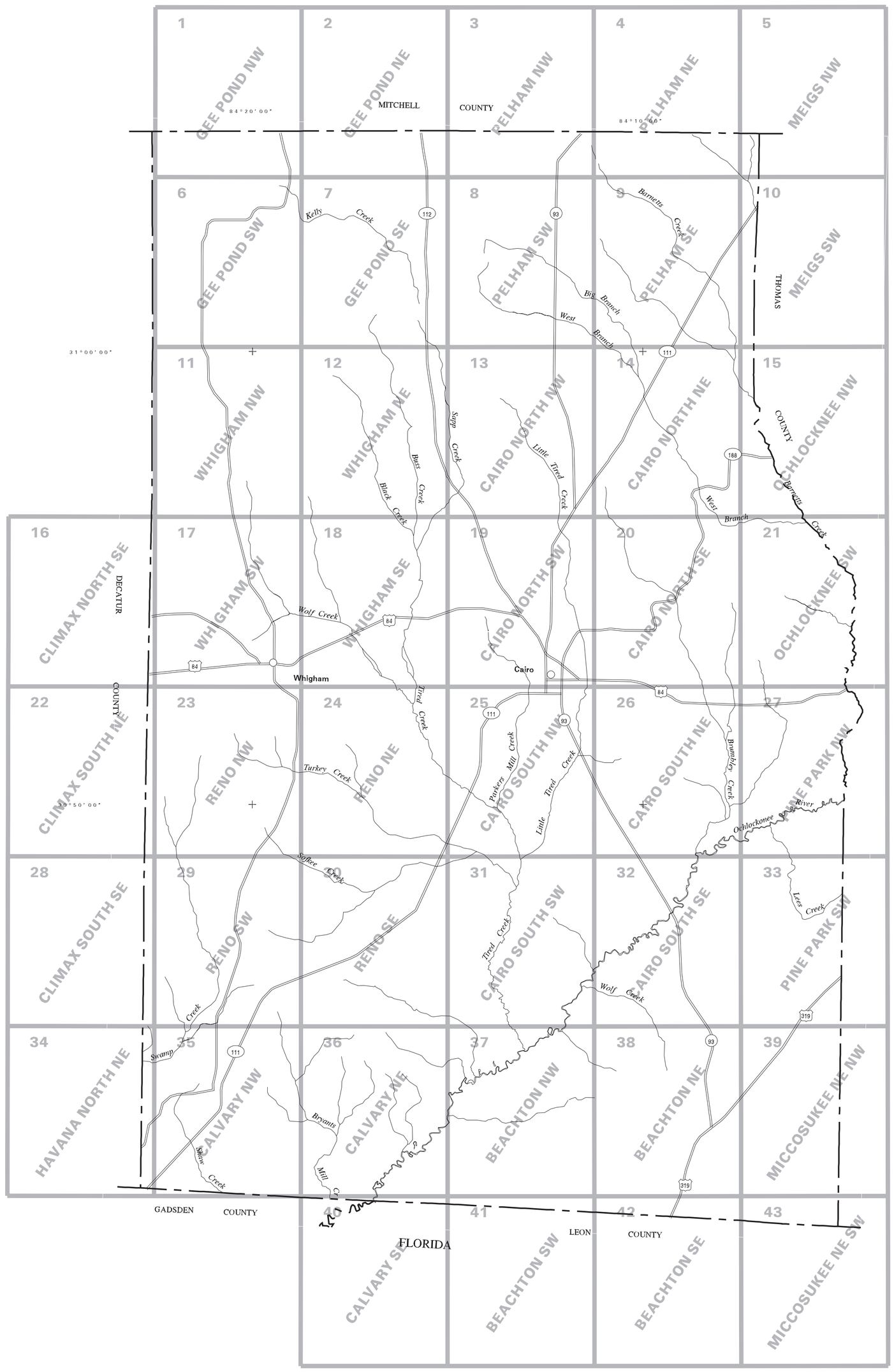
GENERAL SOIL MAP
GRADY COUNTY, GEORGIA

1 0 1 2 3
MILES

1 0 1 2 3 4 5 6
KILOMETERS

SCALE = 1:120000

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.



INDEX TO MAP SHEETS
GRADY COUNTY,
GEORGIA

1 0 1 2 3
MILES

1 0 1 2 3 4 5 6
KILOMETERS

SCALE = 1:120000

SOIL LEGEND

Soil map symbols and map unit names are alphabetical. Map symbols are a combination of letters. The first two letters are listed alphabetically and represent the kind of soil. The first letter is always a capital. The second letter is a capital if the map unit is a third order unit, otherwise it is a small letter. A third letter, if used, is a capital letter and denotes the class of slope. Symbols without a slope letter are miscellaneous areas with variable slopes.

SYMBOL	NAME
BgB	Bigbee loamy fine sand, 0 to 5 percent slopes, rarely flooded
BlB	Blanton loamy sand, 0 to 5 percent slopes
BlD	Blanton loamy sand, 5 to 12 percent slopes
BoB	Bonneau loamy sand, 0 to 5 percent slopes
BoD	Bonneau loamy sand, 5 to 12 percent slopes
CaB	Carnegie gravelly sandy loam, 2 to 5 percent slopes
CaC	Carnegie gravelly sandy loam, 5 to 8 percent slopes
CgC	Cowarts-Gritney complex, 5 to 8 percent slopes
CgD	Cowarts-Gritney complex, 8 to 12 percent slopes
DoA	Dothan loamy sand, 0 to 2 percent slopes
DoB	Dothan loamy sand, 2 to 5 percent slopes
FeA	Faceville sandy loam, 0 to 2 percent slopes
FeB	Faceville sandy loam, 2 to 5 percent slopes
FeC	Faceville sandy loam, 5 to 8 percent slopes
FuB	Fuquay loamy sand, 0 to 5 percent slopes
GoA	Goldsboro loamy sand, 0 to 2 percent slopes
GrA	Grady sandy loam, ponded
HvA	Hornsville fine sandy loam, 0 to 2 percent slopes
LkB	Lakeland sand, 0 to 5 percent slopes
LkD	Lakeland sand, 5 to 12 percent slopes
LmB	Lucy loamy sand, 0 to 5 percent slopes
LmC	Lucy loamy sand, 5 to 8 percent slopes
LnA	Lynchburg fine sandy loam, 0 to 2 percent slopes
NaB	Nankin loamy fine sand, 2 to 5 percent slopes
NcC	Nankin-Cowarts complex, 5 to 8 percent slopes
NcD	Nankin-Cowarts complex, 8 to 12 percent slopes
NoA	Norfolk loamy sand, 0 to 2 percent slopes
NoB	Norfolk loamy sand, 2 to 5 percent slopes
NoC	Norfolk loamy sand, 5 to 8 percent slopes
OcA	Ocilla loamy fine sand, 0 to 2 percent slopes
OeA	Orangeburg loamy sand, 0 to 2 percent slopes
OeB	Orangeburg loamy sand, 2 to 5 percent slopes
OeC	Orangeburg loamy sand, 5 to 8 percent slopes
OeD	Orangeburg loamy sand, 8 to 12 percent slopes
OSA	Osier and Bibb soils, frequently flooded
PeA	Pelham loamy fine sand, frequently flooded
ReA	Rembert sandy loam, frequently flooded
TfA	Tifton loamy sand, 0 to 2 percent slopes
TfB	Tifton loamy sand, 2 to 5 percent slopes
TfC	Tifton loamy sand, 5 to 8 percent slopes
TrB	Troup loamy sand, 0 to 5 percent slopes
TrD	Troup loamy sand, 5 to 12 percent slopes
Ud	Udorthents, loamy
Up	Udorthents-Pits complex
UtC	Urban land-Tifton complex, 0 to 8 percent slopes
W	Water
WaB	Wagram loamy sand, 0 to 5 percent slopes
WhA	Wahee fine sandy loam, 0 to 2 percent slopes, occasionally flooded

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

National, state, or province

County or parish

Field sheet matchline & neatline

OTHER BOUNDARY (label)

Cemetery

STATE COORDINATE TICK
1 890 000 FEET

GEOGRAPHIC COORDINATE TICK

TRANSPORTATION

ROAD EMBLEM & DESIGNATIONS

Interstate

Federal

State

MISCELLANEOUS CULTURAL FEATURES

Church

HYDROGRAPHIC FEATURES

STREAMS

Unclassified stream

Drainage end (indicates direction of flow)

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS

MISCELLANEOUS SURFACE FEATURES

SHORT STEEP SLOPES

Borrow Pits

Depression, closed

Wet spot

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
GEE POND NW QUADRANGLE (OVERSIZED)
SHEET NUMBER 1 OF 43

84°22′30″ — 84°18′45″ — 31°07′30″ — 31°03′45″

Joins sheet 2, Gee Pond NE

Joins sheet 6, Gee Pond SW

Joins sheet 7, Gee Pond SE

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

INDEX TO ADJOINING 3.75 MAPS

		2 GEE POND NE
6 GEE POND SW	7 GEE POND SE	

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

GEE POND NW, (OVERSIZED) GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 1 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
GEE POND NE QUADRANGLE
SHEET NUMBER 2 OF 43

84°18′45″ 84°15′00″

31°07′30″ 31°07′30″

31°03′45″ 31°03′45″

84°18′45″ 84°15′00″

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

1		3
6	7	8

1 GEE POND NW
3 PELHAM NW
6 GEE POND SW
7 GEE POND SE
8 PELHAM SW

INDEX TO ADJOINING 3.75 MAPS

GEE POND NE, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 2 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
PELHAM NW QUADRANGLE
SHEET NUMBER 3 OF 43

84°15′00″ — 84°11′15″

31°07′30″ — 31°07′30″

31°03′45″ — 31°03′45″

84°15′00″ — 84°11′15″

Joins sheet 2, Gee Pond NE — *Joins sheet 4, Pelham NE*

Joins sheet 7, Gee Pond SE — *Joins sheet 8, Pelham SW* — *Joins sheet 9, Pelham SE*

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

2		4
7	8	9

2 GEE POND NE
4 PELHAM NE
7 GEE POND SE
8 PELHAM SW
9 PELHAM SE

INDEX TO ADJOINING 3.75 MAPS

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

PELHAM NW, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 3 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

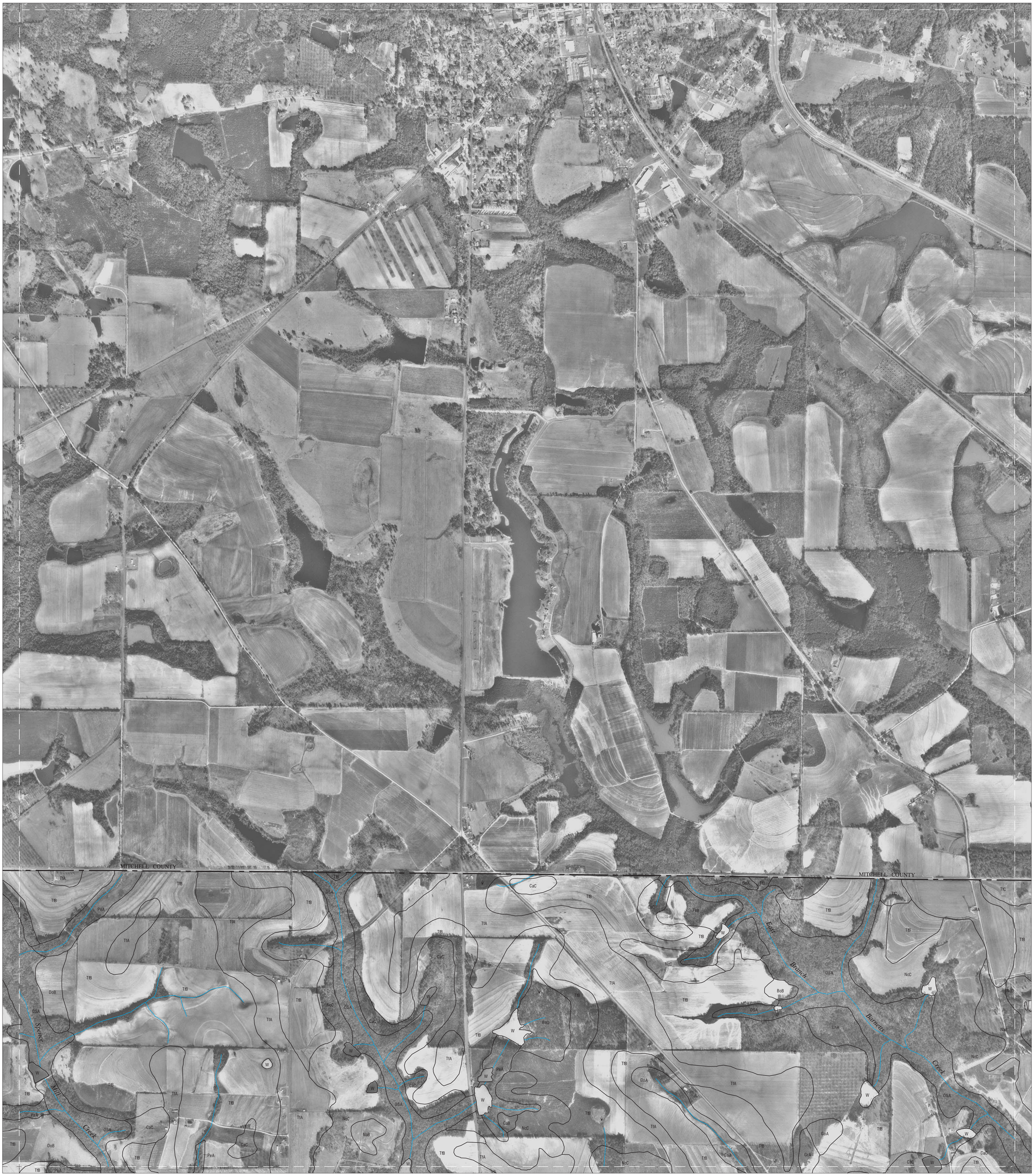
GRADY COUNTY, GEORGIA
PELHAM NE QUADRANGLE
SHEET NUMBER 4 OF 43

84°11'15"

84°07'30"

31°07'30"

31°07'30"



31°03'45"

31°03'45"

Joins sheet 3, Pelham NW

Joins sheet 5, Meigs NW

Joins sheet 8, Pelham SW

84°11'15"

Joins sheet 9, Pelham SE

84°07'30"

Joins sheet 10, Meigs SW

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

3		5
8	9	10

3 PELHAM NW
5 MEIGS NW
8 PELHAM SW
9 PELHAM SE
10 MEIGS SW

INDEX TO ADJOINING 3.75 MAPS

PELHAM NE, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 4 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
MEIGS NW QUADRANGLE
SHEET NUMBER 5 OF 43

84°07′30″ 84°03′45″

31°07′30″ 31°07′30″

31°03′45″ 31°03′45″

84°07′30″ 84°03′45″

Joins sheet 4, Pelham NE

Joins sheet 9, Pelham SE

Joins sheet 10, Meigs SW

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

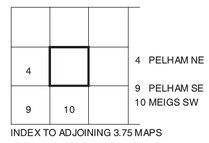
QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0,5 0 0,5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0,5 0 0,5
KILOMETERS



INDEX TO ADJOINING 3.75 MAPS

MEIGS NW, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 5 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
GEE POND SW QUADRANGLE (OVERSIZED)
SHEET NUMBER 6 OF 43

84°22′30″

Joins sheet 1, Gee Pond NW

84°18′45″

Joins sheet 2, Gee Pond NE

31°03′45″

31°00′00″

DECATUR COUNTY

BIG SLOUGH

Kelly Creek

179

Joins sheet 7, Gee Pond SE

Joins sheet 11, Whigham NW

Joins sheet 12, Whigham NE

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

	1	2	1 GEE POND NW 2 GEE POND NE
		7	7 GEE POND SE
	11	12	11 WHIGHAM NW 12 WHIGHAM NE

INDEX TO ADJOINING 3.75 MAPS

GEE POND SW, (OVERSIZED) GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 6 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
GEE POND SE QUADRANGLE
SHEET NUMBER 7 OF 43

84°18′45″ — 84°15′00″

31°03′45″ — 31°00′00″

Joins sheet 1, Gee Pond NW
Joins sheet 2, Gee Pond NE
Joins sheet 3, Pelham NW
Joins sheet 6, Gee Pond SW
Joins sheet 8, Pelham SW
Joins sheet 11, Whigham NW
Joins sheet 12, Whigham NE
Joins sheet 13, Cairo North NW

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

1	2	3	1 GEE POND NW 2 GEE POND NE 3 PELHAM NW
6		8	6 GEE POND SW 8 PELHAM SW
11	12	13	11 WHIGHAM NW 12 WHIGHAM NE 13 CAIRO NORTH NW

INDEX TO ADJOINING 3.75 MAPS

GEE POND SE, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 7 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

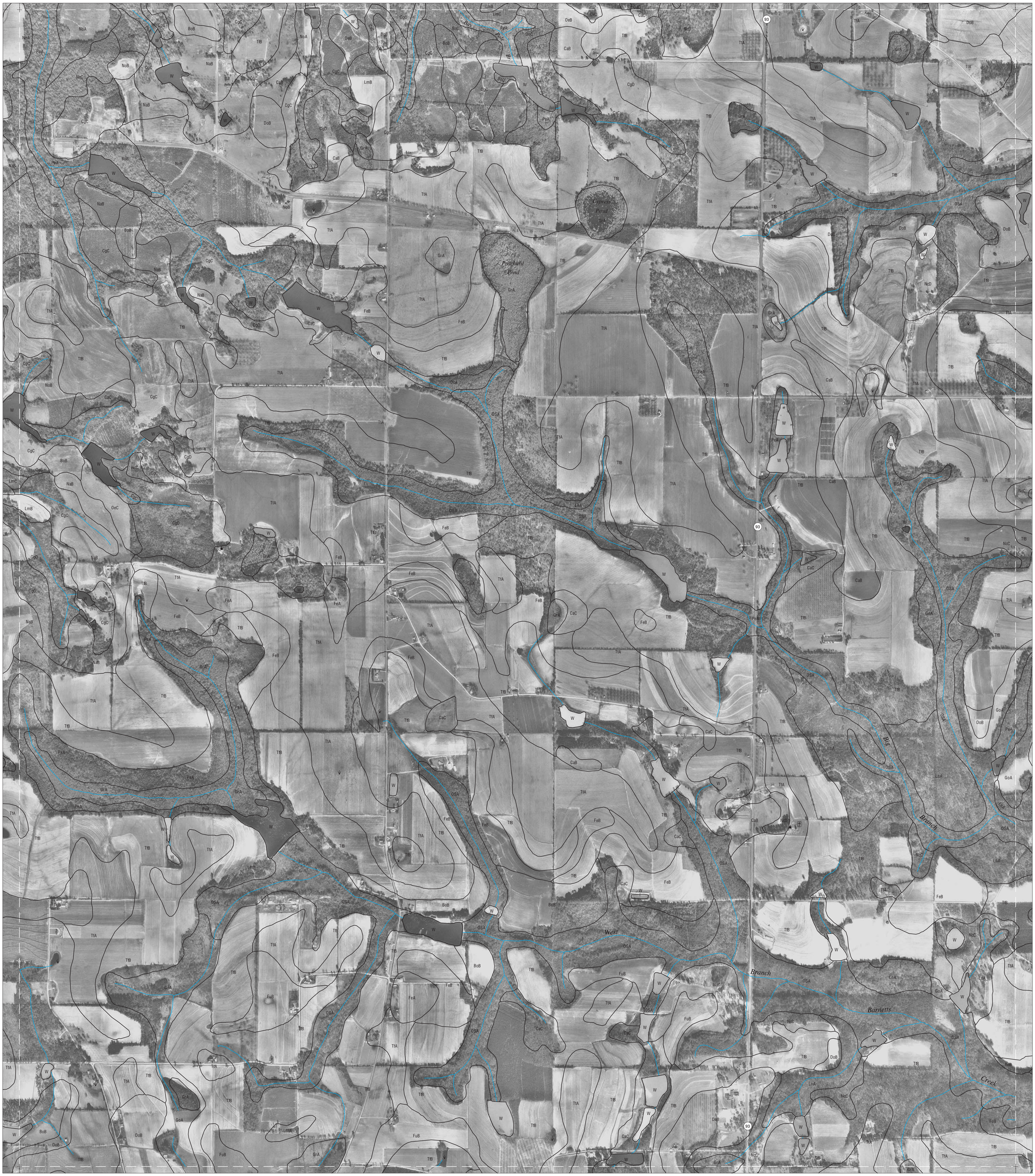
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
PELHAM SW QUADRANGLE
SHEET NUMBER 8 OF 43

84°15′00″ — 84°11′15″

31°03′45″ — 31°00′00″

Joins sheet 2, Gee Pond NE
Joins sheet 3, Pelham NW
Joins sheet 4, Pelham NE
Joins sheet 7, Gee Pond SE
Joins sheet 9, Pelham SE
Joins sheet 12, Whigham NE
Joins sheet 13, Cairo North NW
Joins sheet 14, Cairo North NE



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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

2	3	4	2 GEE POND NE 3 PELHAM NW 4 PELHAM NE
7		9	7 GEE POND SE 9 PELHAM SE
12	13	14	12 WHIGHAM NE 13 CAIRO NORTH NW 14 CAIRO NORTH NE

INDEX TO ADJOINING 3.75 MAPS

PELHAM SW, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 8 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
PELHAM SE QUADRANGLE
SHEET NUMBER 9 OF 43

84°11'15"

84°07'30"

31°03'45"

31°00'00"

Joins sheet 3, Pelham NW

Joins sheet 4, Pelham NE

Joins sheet 5, Meigs NW

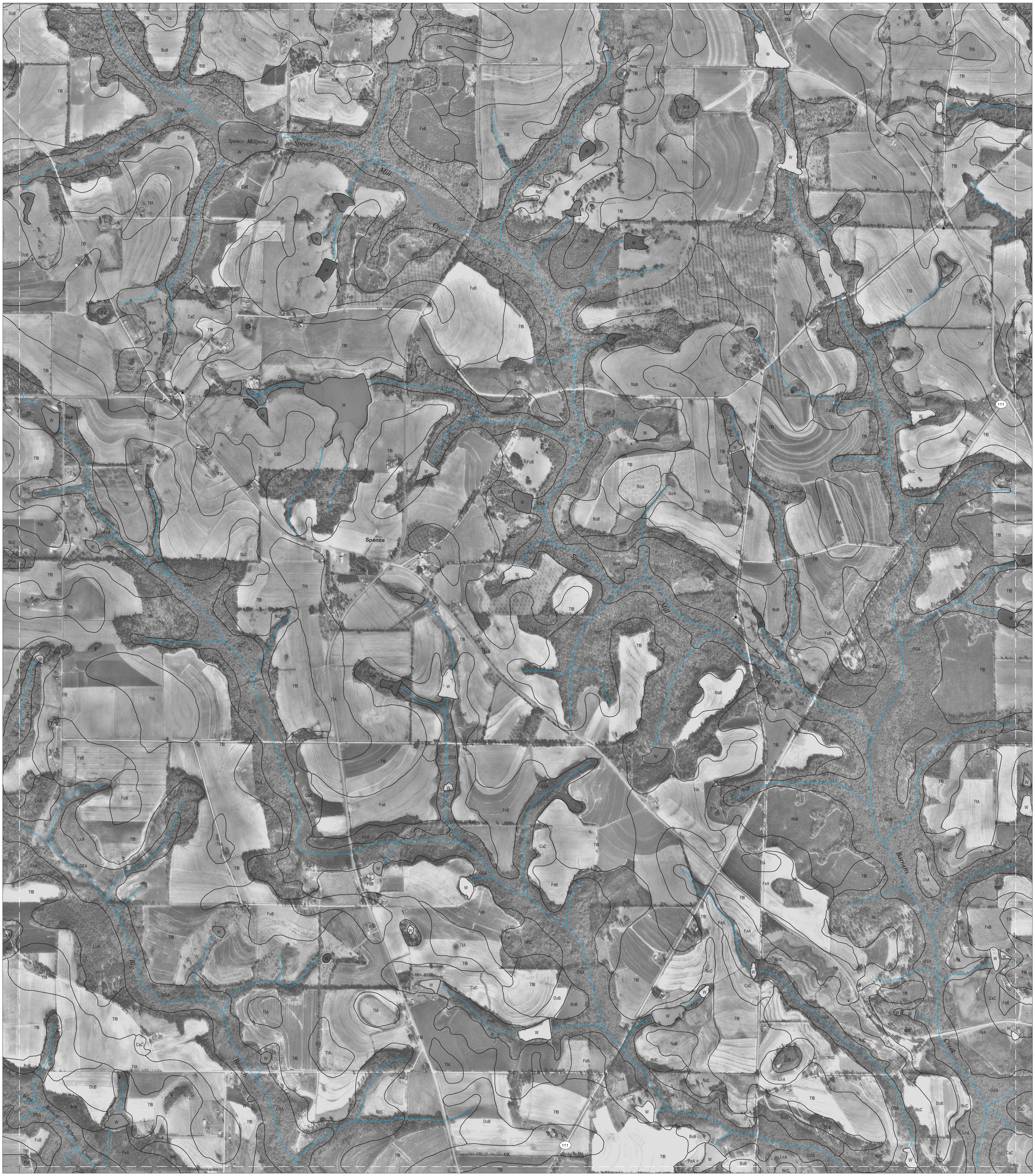
Joins sheet 8, Pelham SW

Joins sheet 10, Meigs SW

Joins sheet 13, Cairo North NW

Joins sheet 14, Cairo North NE

Joins sheet 15, Ochlocknee NW



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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

	4	5	3 PELHAM NW 4 PELHAM NE 5 MEIGS NW
8		10	8 PELHAM SW 10 MEIGS SW
13	14	15	13 CAIRO NORTH NW 14 CAIRO NORTH NE 15 OCHLOCKNEE NW

INDEX TO ADJOINING 3.75 MAPS

PELHAM SE, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 9 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
MEIGS SW QUADRANGLE
SHEET NUMBER 10 OF 43

Joins sheet 4, Pelham NE

84°07′30″

Joins sheet 5, Meigs NW

84°03′45″

31°03′45″

31°00′00″

Joins sheet 9, Pelham SE

Joins sheet 14, Cairo North NE

Joins sheet 15, Ochlocknee NW

THOMAS COUNTY

Burnets Creek

East Br. Cr.

111

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0,5 0 0,5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0,5 0 0,5
KILOMETERS

4	5		4 PELHAM NE 5 MEIGS NW
9			9 PELHAM SE
14	15		14 CAIRO NORTH NE 15 OCHLOCKNEE NW

INDEX TO ADJOINING 3.75 MAPS

MEIGS SW, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 10 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
WHIGHAM NW QUADRANGLE (OVERSIZED)
SHEET NUMBER 11 OF 43

84°22′30″ — 84°18′45″

31°00′00″ — 30°56′15″

Joins sheet 6, Gee Pond SW

Joins sheet 7, Gee Pond SE

Joins sheet 12, Whigham NE

Joins sheet 16, Climax North SE

Joins sheet 17, Whigham SW

Joins sheet 18, Whigham SE

DECATUR COUNTY

Manbone Branch

179

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

NORTH

QUARTER QUADRANGLE LOCATION

	6	7	6 GEE POND SW 7 GEE POND SE
		12	12 WHIGHAM NE 16 CLIMAX NORTH SE
16	17	18	17 WHIGHAM SW 18 WHIGHAM SE

INDEX TO ADJOINING 3.75 MAPS

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

WHIGHAM NW, (OVERSIZED) GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 11 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

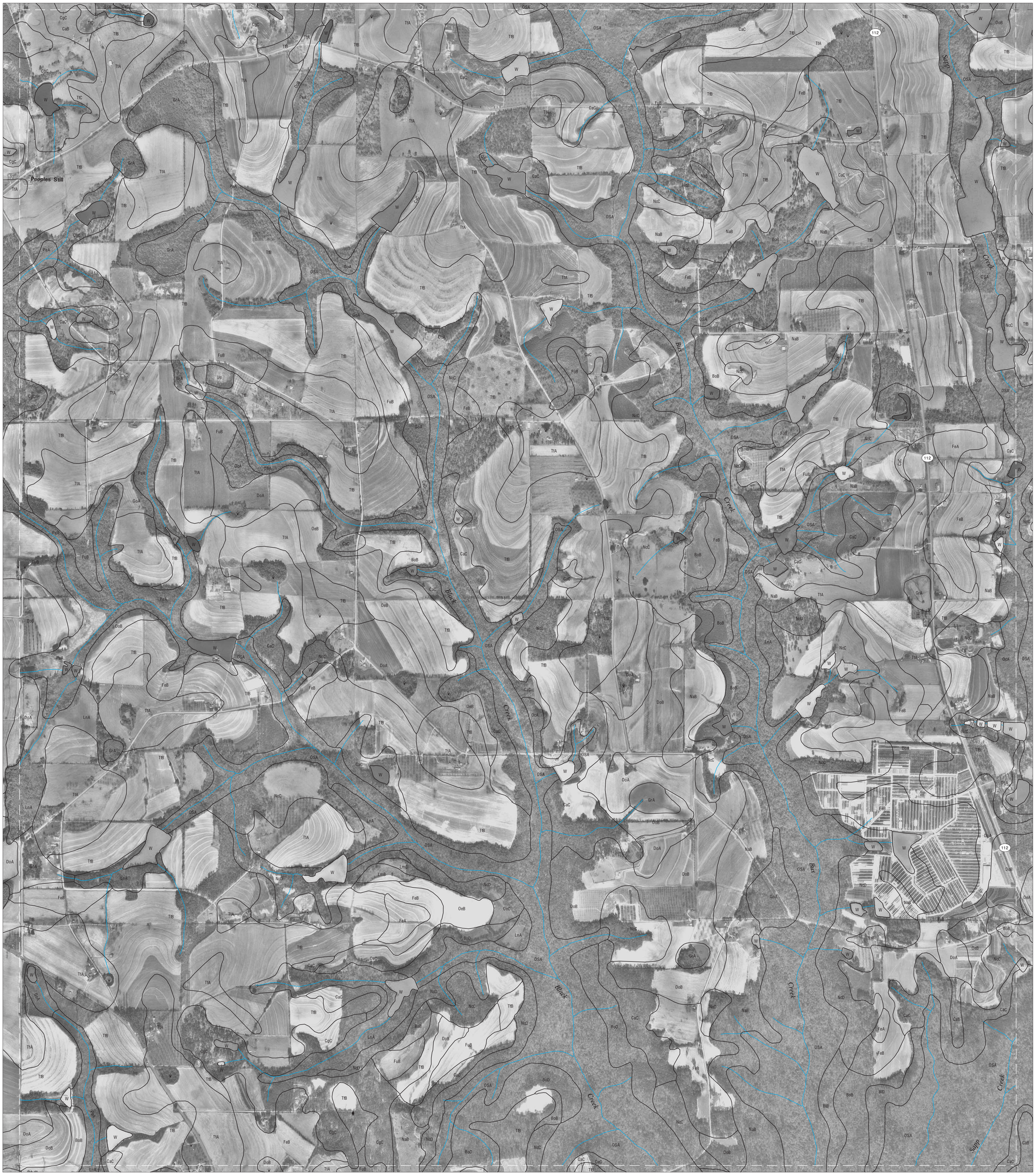
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
WHIGHAM NE QUADRANGLE
SHEET NUMBER 12 OF 43

84°18′45″ — 84°15′00″

31°00′00″ — 30°56′15″

Joins sheet 6, Gee Pond SW
Joins sheet 7, Gee Pond SE
Joins sheet 8, Pelham SW
Joins sheet 11, Whigham NW
Joins sheet 13, Cairo North NW
Joins sheet 17, Whigham SW
Joins sheet 18, Whigham SE
Joins sheet 19, Cairo North SW



SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

6	7	8	6 GEE POND SW 7 GEE POND SE 8 PELHAM SW
11		13	11 WHIGHAM NW 13 CAIRO NORTH NW
17	18	19	17 WHIGHAM SW 18 WHIGHAM SE 19 CAIRO NORTH SW

INDEX TO ADJOINING 3.75 MAPS

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

WHIGHAM NE, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 12 OF 43

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
CAIRO NORTH NW QUADRANGLE
SHEET NUMBER 13 OF 43

84°15′00″ — 84°11′15″

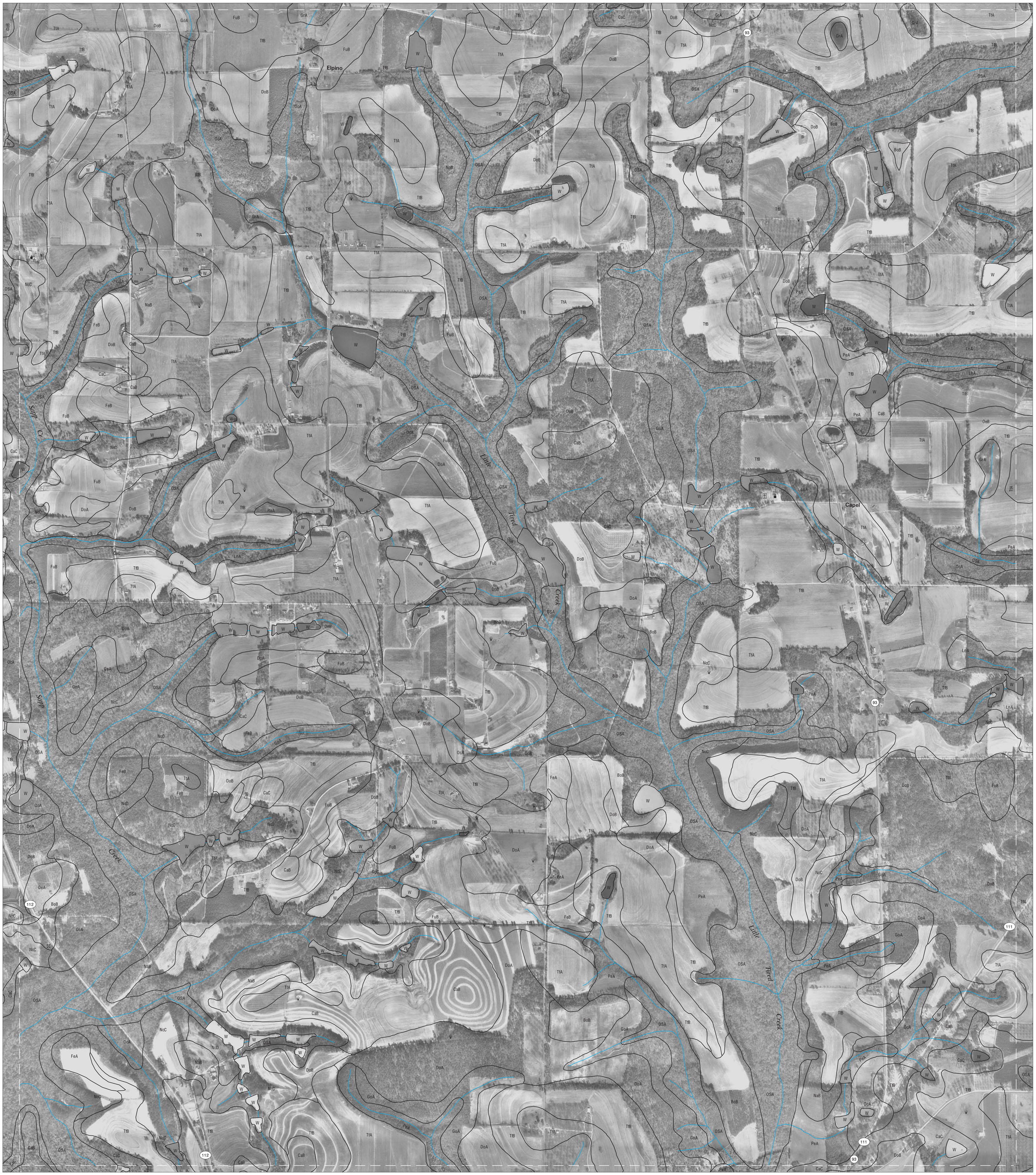
31°00′00″ — 30°56′15″

Joins sheet 7, Gee Pond SE — Joins sheet 8, Pelham SW — Joins sheet 9, Pelham SE

Joins sheet 12, Whigham NE — Joins sheet 14, Cairo North NE

Joins sheet 18, Whigham SE — Joins sheet 19, Cairo North SW — Joins sheet 20, Cairo North SE

Elpino — Capel — Supp Cr. — Little Tired Creek — Tired Creek — Little Tired Creek



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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

7	8	9	7 GEE POND SE 8 PELHAM SW 9 PELHAM SE
12		14	12 WHIGHAM NE 14 CAIRO NORTH NE
18	19	20	18 WHIGHAM SE 19 CAIRO NORTH SW 20 CAIRO NORTH SE

INDEX TO ADJOINING 3.75 MAPS

CAIRO NORTH NW, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 13 OF 43

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
CAIRO NORTH NE QUADRANGLE
SHEET NUMBER 14 OF 43

Joins sheet 8, Pelham SW
Joins sheet 9, Pelham SE
Joins sheet 10, Meigs SW
Joins sheet 13, Cairo North NW
Joins sheet 15, Ochlocknee NW
Joins sheet 19, Cairo North SW
Joins sheet 20, Cairo North SE
Joins sheet 21, Ochlocknee SW

84°11'15"
84°07'30"
31°00'00"
30°56'15"

Akridge
Big Branch
West Branch Barnetts Creek
Barnetts Creek
111
188

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

8	9	10
13		15
19	20	21

8 PELHAM SW
9 PELHAM SE
10 MEIGS SW
13 CAIRO NORTH NW
15 OCHLOCKNEE NW
19 CAIRO NORTH SW
20 CAIRO NORTH SE
21 OCHLOCKNEE SW

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CAIRO NORTH NE, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 14 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
OCHLOCKNEE NW QUADRANGLE
SHEET NUMBER 15 OF 43

Joins sheet 9, Pelham SE

84°07′30″

Joins sheet 10, Meigs SW

84°03′45″

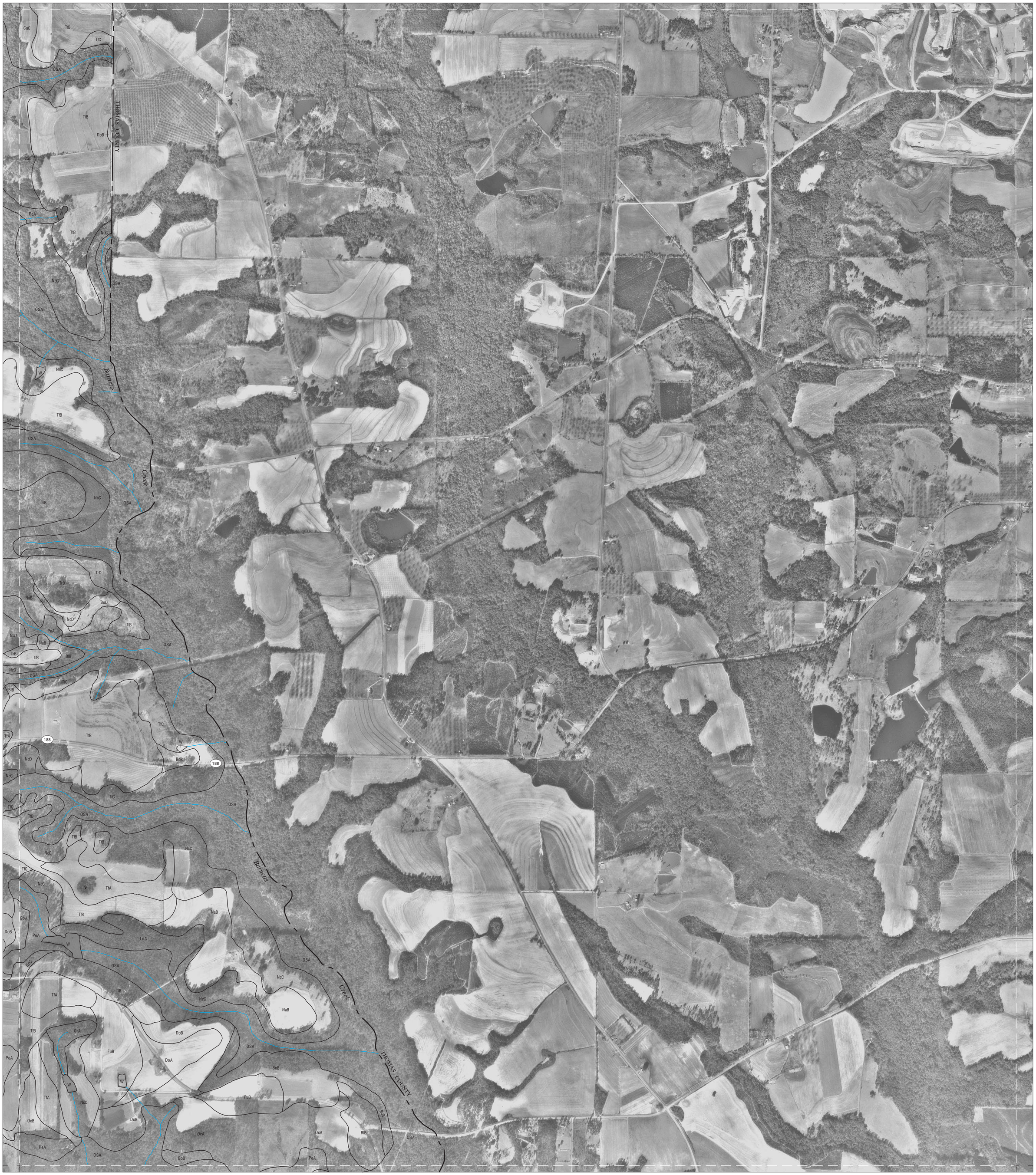
31°00′00″

30°56′15″

Joins sheet 14, Cairo North NE

Joins sheet 20, Cairo North SE

Joins sheet 21, Ochlocknee SW



SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

9	10	
14		
20	21	

9 PELHAM SE
10 MEIGS SW
14 CAIRO NORTH NE
20 CAIRO NORTH SE
21 OCHLOCKNEE SW

INDEX TO ADJOINING 3.75 MAPS

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

OCHLOCKNEE NW, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 15 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
CLIMAX NORTH SE QUADRANGLE
SHEET NUMBER 16 OF 43

84°26′15″ | 84°22′30″ | 30°56′15″ | 30°52′30″

Joins sheet 11, Whigham NW

Joins sheet 17, Whigham SW

Joins sheet 22, Climax South NE

Joins sheet 23, Reno NW

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

		11 — 11 WHIGHAM NW
		17 — 17 WHIGHAM SW
	22	23 — 22 CLIMAX SOUTH NE, 23 RENO NW

INDEX TO ADJOINING 3.75 MAPS

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

CLIMAX NORTH SE, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 16 OF 43

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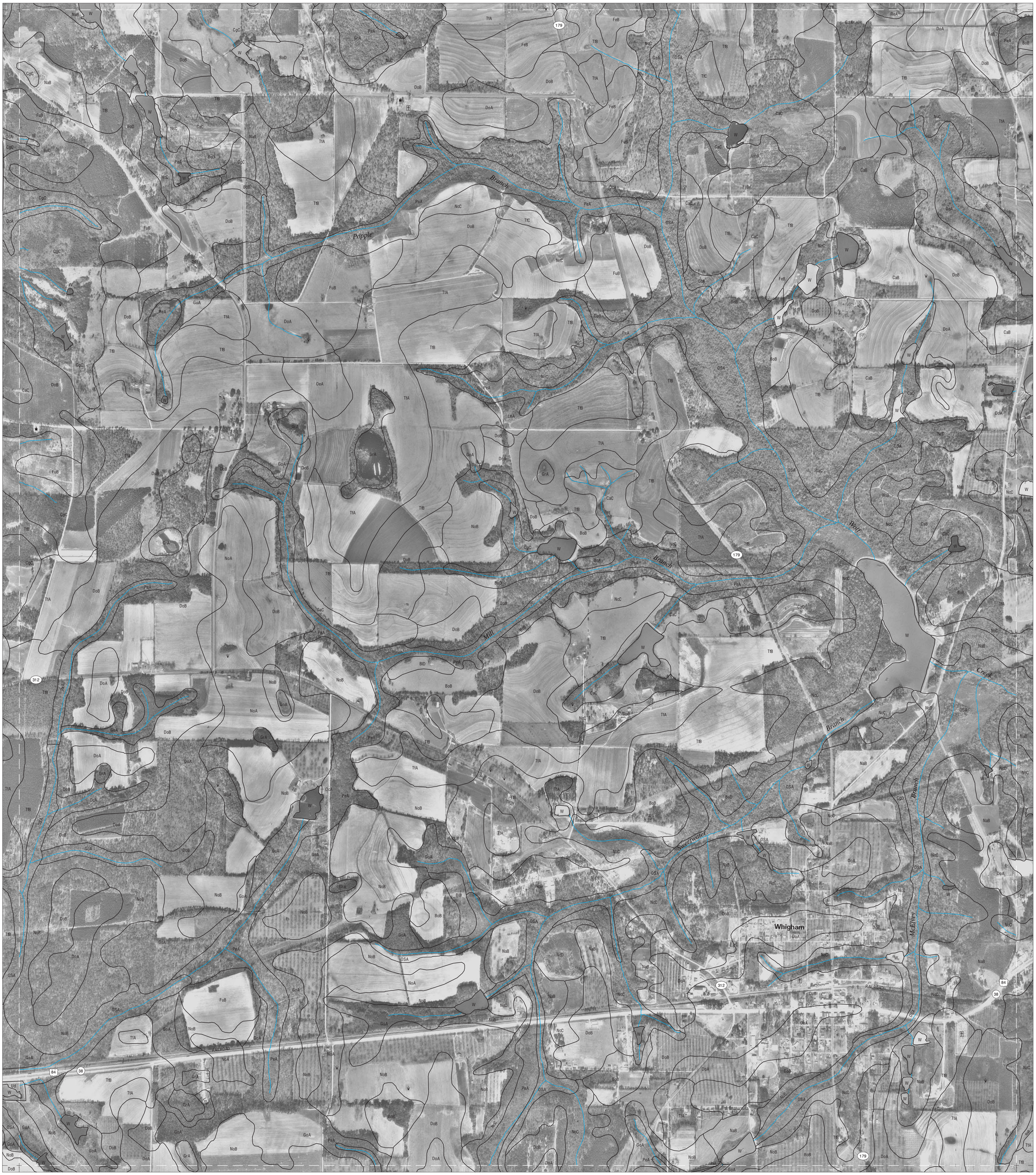
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
WHIGHAM SW QUADRANGLE
SHEET NUMBER 17 OF 43

84°22′30″ — 84°18′45″ — 30°56′15″ — 30°52′30″

Joins sheet 11, Whigham NW
Joins sheet 12, Whigham NE
Joins sheet 16, Climax North SE
Joins sheet 18, Whigham SE
Joins sheet 22, Climax South NE
Joins sheet 23, Reno NW
Joins sheet 24, Reno NE



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North American Datum of 1983 (NAD83). GRS-80 Spheroid
Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

	11	12
16		18
22	23	24

11 WHIGHAM NW
12 WHIGHAM NE
16 CLIMAX NORTH SE
18 WHIGHAM SE
22 CLIMAX SOUTH NE
23 RENO NW
24 RENO NE

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WHIGHAM SW, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 17 OF 43

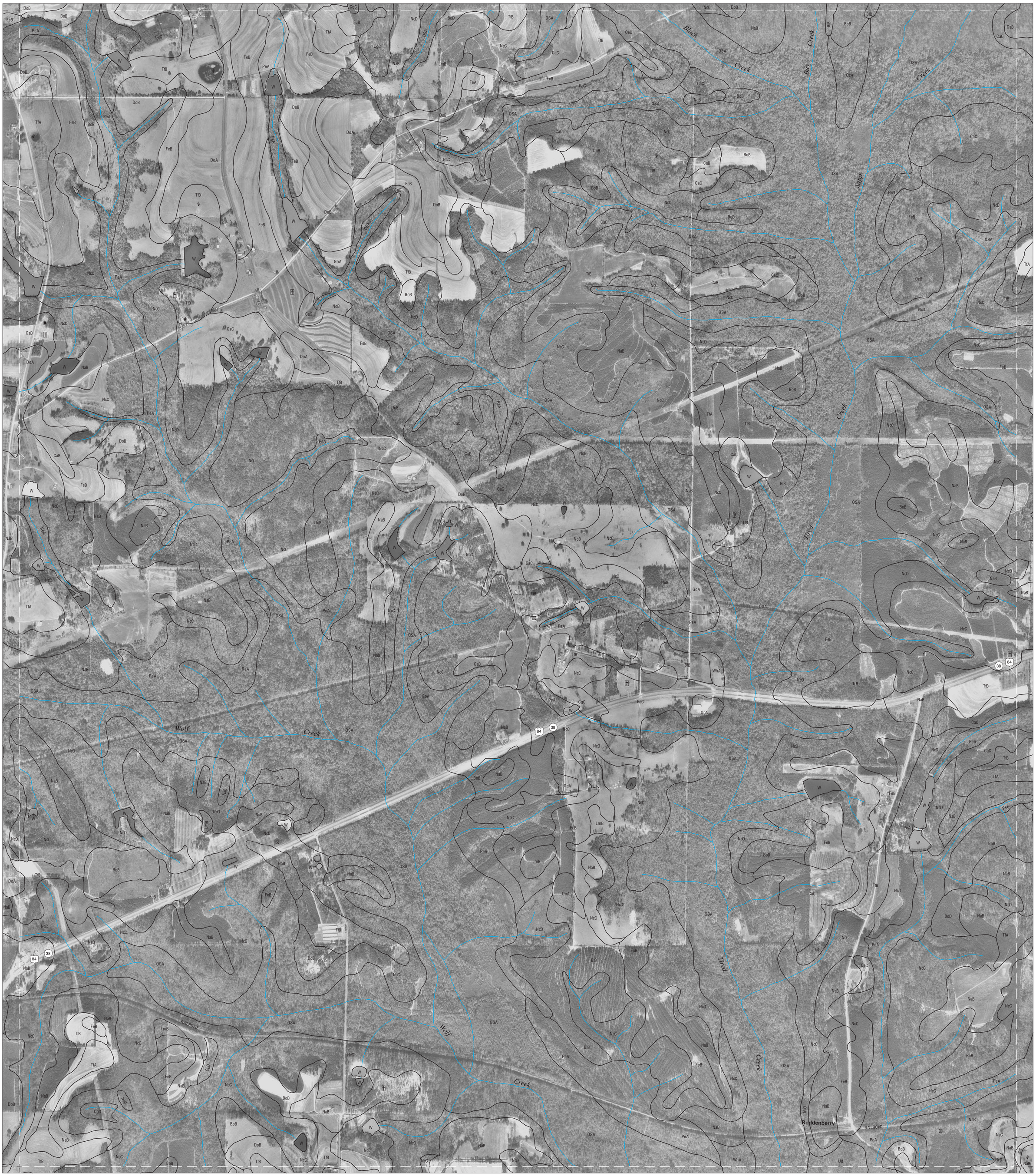
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
WHIGHAM SE QUADRANGLE
SHEET NUMBER 18 OF 43

84°18′45″ — 84°15′00″ — 30°56′15″ — 30°52′30″

Joins sheet 11, Whigham NW
Joins sheet 12, Whigham NE
Joins sheet 13, Cairo North NW
Joins sheet 17, Whigham SW
Joins sheet 19, Cairo North SW
Joins sheet 23, Reno NW
Joins sheet 24, Reno NE
Joins sheet 25, Cairo South NW



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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

11	12	13
17		19
23	24	25

11 WHIGHAM NW
12 WHIGHAM NE
13 CAIRO NORTH NW
17 WHIGHAM SW
19 CAIRO NORTH SW
23 RENO NW
24 RENO NE
25 CAIRO SOUTH NW

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WHIGHAM SE, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 18 OF 43

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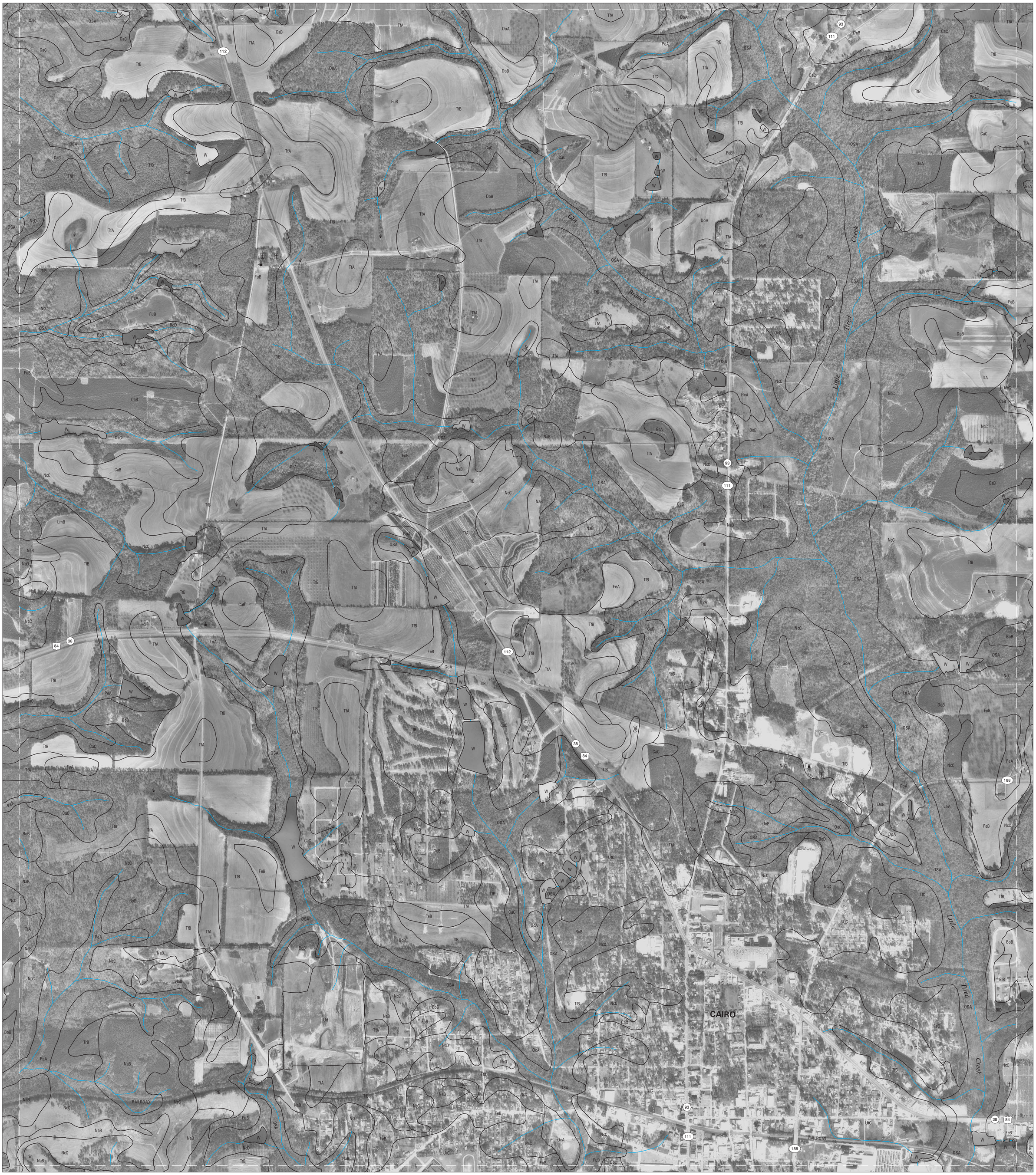
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
CAIRO NORTH SW QUADRANGLE
SHEET NUMBER 19 OF 43

Joins sheet 12, Whigham NE
Joins sheet 13, Cairo North NW
Joins sheet 14, Cairo North NE
Joins sheet 18, Whigham SE
Joins sheet 20, Cairo North SE
Joins sheet 24, Reno NE
Joins sheet 25, Cairo South NW
Joins sheet 26, Cairo South NE

84°15′00″ — 84°11′15″
30°56′15″ — 30°52′30″



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North American Datum of 1983 (NAD83). GRS-80 Spheroid
Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

12	13	14
18		20
24	25	26

12 WHIGHAM NE
13 CAIRO NORTH NW
14 CAIRO NORTH NE
18 WHIGHAM SE
20 CAIRO NORTH SE
24 RENO NE
25 CAIRO SOUTH NW
26 CAIRO SOUTH NE

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CAIRO NORTH SW, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 19 OF 43

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
CAIRO NORTH SE QUADRANGLE
SHEET NUMBER 20 OF 43

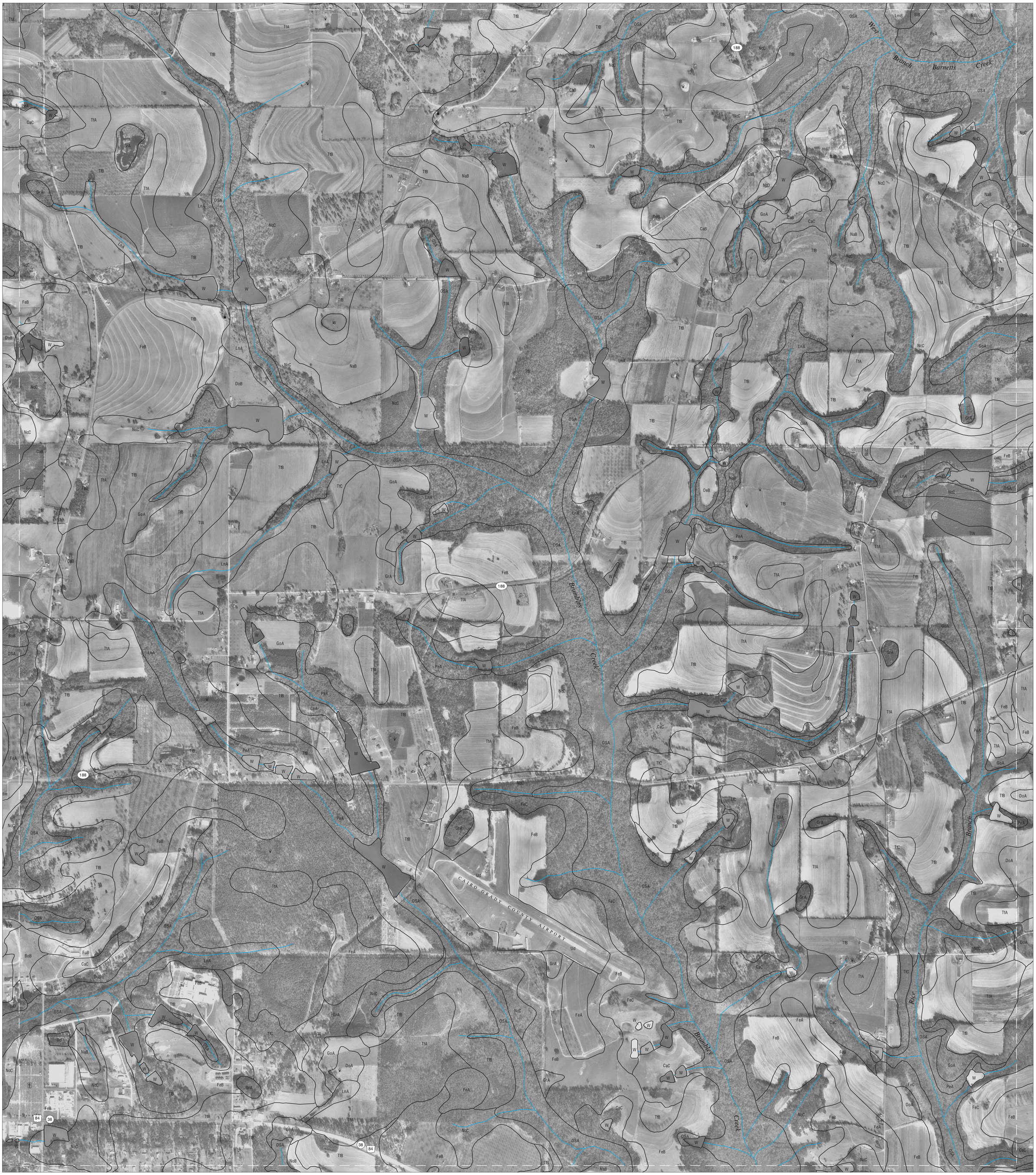
84°11'15"

84°07'30"

30°56'15"

30°52'30"

Joins sheet 13, Cairo North NW
Joins sheet 14, Cairo North NE
Joins sheet 15, Ochlocknee NW
Joins sheet 19, Cairo North SW
Joins sheet 21, Ochlocknee SW
Joins sheet 25, Cairo South NW
Joins sheet 26, Cairo South NE
Joins sheet 27, Pine Park NW



SCALE 1:12000

0,5 0 0,5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0,5 0 0,5
KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

13	14	15
19		21
25	26	27

13 CAIRO NORTH NW
14 CAIRO NORTH NE
15 OCHLOCKNEE NW
19 CAIRO NORTH SW
21 OCHLOCKNEE SW
25 CAIRO SOUTH NW
26 CAIRO SOUTH NE
27 PINE PARK NW

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

CAIRO NORTH SE, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 20 OF 43

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
OCHLOCKNEE SW QUADRANGLE
SHEET NUMBER 21 OF 43

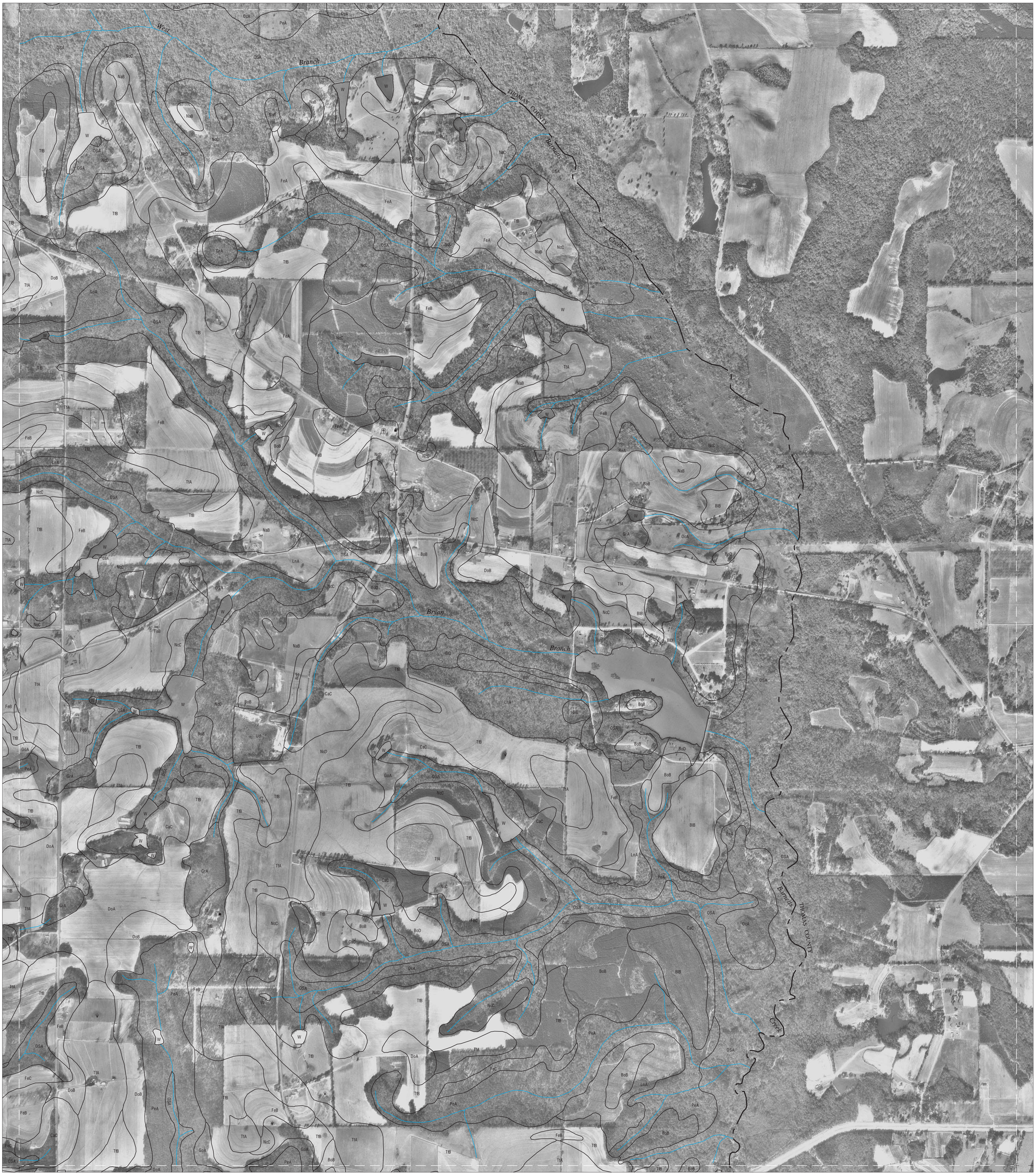
Joins sheet 14, Cairo North NE

84°07′30″

Joins sheet 15, Ochlocknee NW

84°03′45″

30°56′15″



30°52′30″

Joins sheet 20, Cairo North SE

84°07′30″

Joins sheet 27, Pine Park NW

84°03′45″

Joins sheet 26, Cairo South NE

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0,5 0 0,5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0,5 0 0,5
KILOMETERS

			14 CAIRO NORTH NE 15 OCHLOCKNEE NW
14	15		
20			20 CAIRO NORTH SE
			26 CAIRO SOUTH NE 27 PINE PARK NW
26	27		

INDEX TO ADJOINING 3.75 MAPS

OCHLOCKNEE SW, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 21 OF 43

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
CLIMAX SOUTH NE QUADRANGLE
SHEET NUMBER 22 OF 43

84°26'15"

Joins sheet 16, Climax North SE

84°22'30"

Joins sheet 17, Whigham SW

30°52'30"

30°52'30"

DECATUR COUNTY

Joins sheet 23, Reno NW

Joins sheet 29, Reno SW

30°48'45"

30°48'45"

84°26'15"

Joins sheet 28, Climax South SE

84°22'30"

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

	16	17
		23
	28	29

16 CLIMAX NORTH SE
17 WHIGHAM SW
23 RENO NW
28 CLIMAX SOUTH SE
29 RENO SW

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

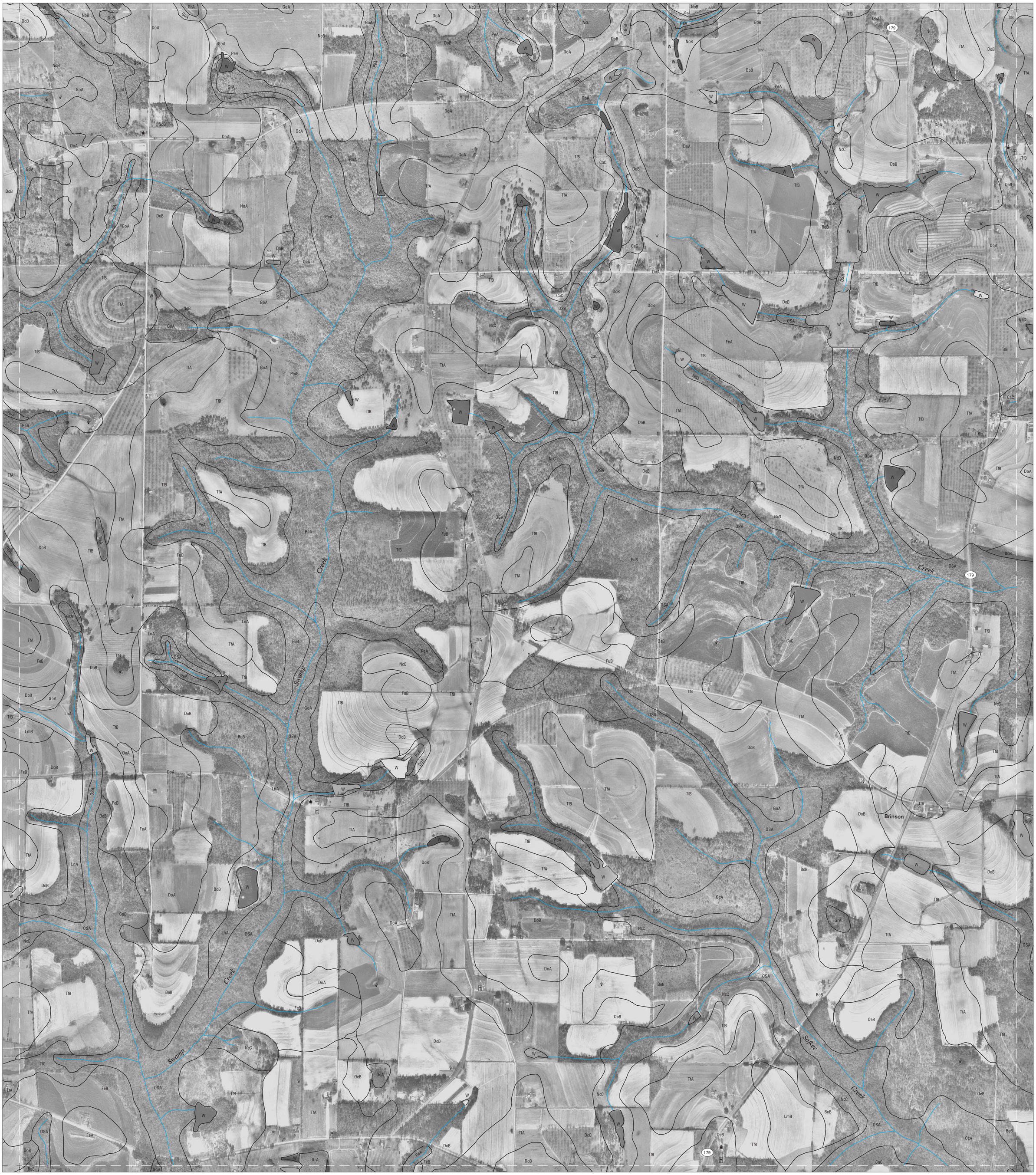
CLIMAX SOUTH NE, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 22 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

84°22′30″ 84°18′45″

30°52′30″ 30°52′30″



30°48′45″ 30°48′45″

84°22′30″ 84°18′45″

Joins sheet 22, Climax South NE
Joins sheet 24, Reno NE
Joins sheet 28, Climax South SE
Joins sheet 29, Reno SW
Joins sheet 30, Reno SE

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

16	17	18
22		24
28	29	30

16 CLIMAX NORTH SE
17 WHIGHAM SW
18 WHIGHAM SE
22 CLIMAX SOUTH NE
24 RENO NE
28 CLIMAX SOUTH SE
29 RENO SW
30 RENO SE

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RENO NW, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 23 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

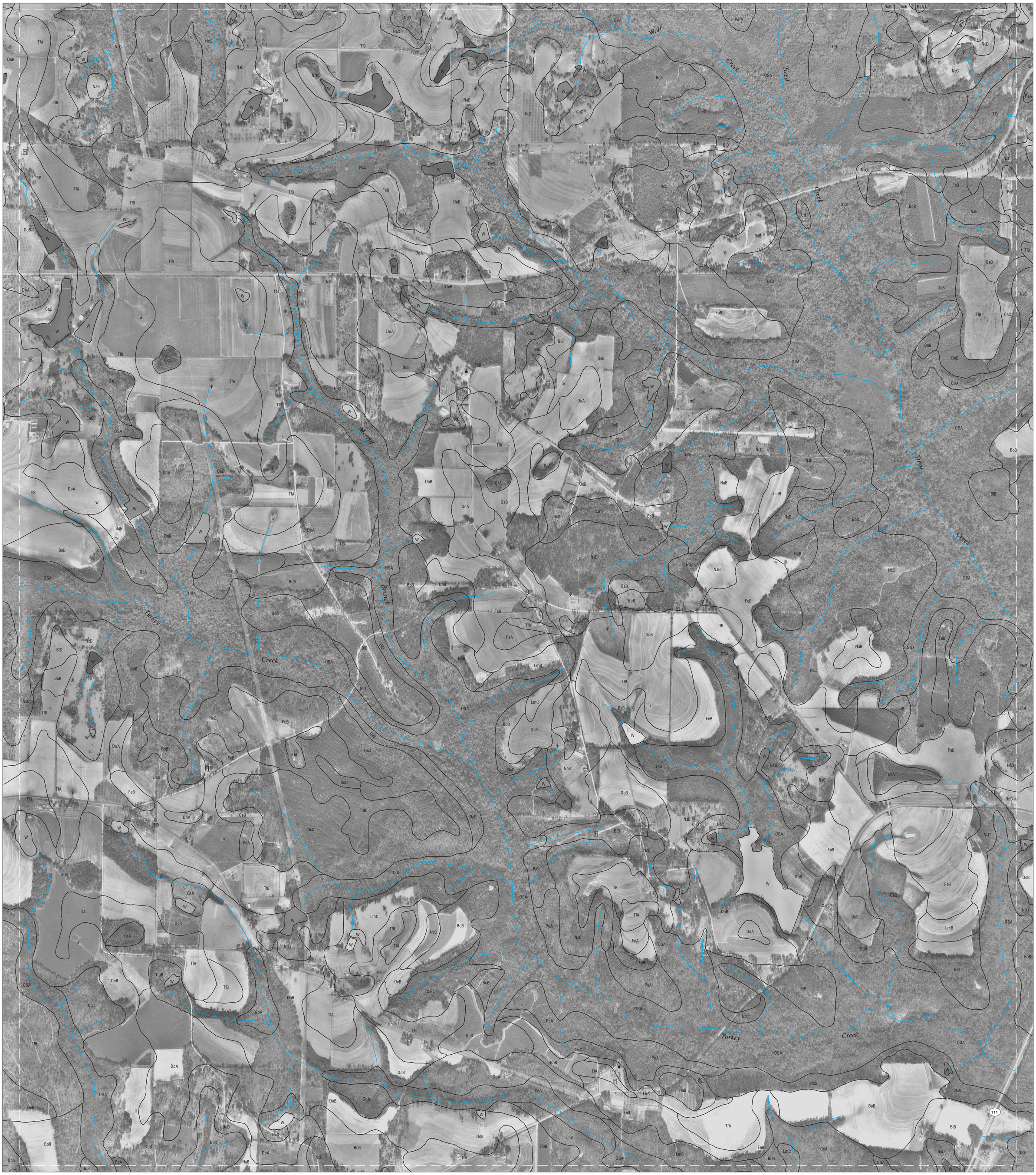
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
RENO NE QUADRANGLE
SHEET NUMBER 24 OF 43

84°18′45″ — 84°15′00″

30°52′30″ — 30°48′45″

Joins sheet 17, Whigham SW
Joins sheet 18, Whigham SE
Joins sheet 19, Cairo North SW
Joins sheet 23, Reno NW
Joins sheet 25, Cairo South NW
Joins sheet 29, Reno SW
Joins sheet 30, Reno SE
Joins sheet 31, Cairo South SW



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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

17	18	19	17 WHIGHAM SW 18 WHIGHAM SE 19 CAIRO NORTH SW
23		25	23 RENO NW 25 CAIRO SOUTH NW
29	30	31	29 RENO SW 30 RENO SE 31 CAIRO SOUTH SW

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RENO NE, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 24 OF 43

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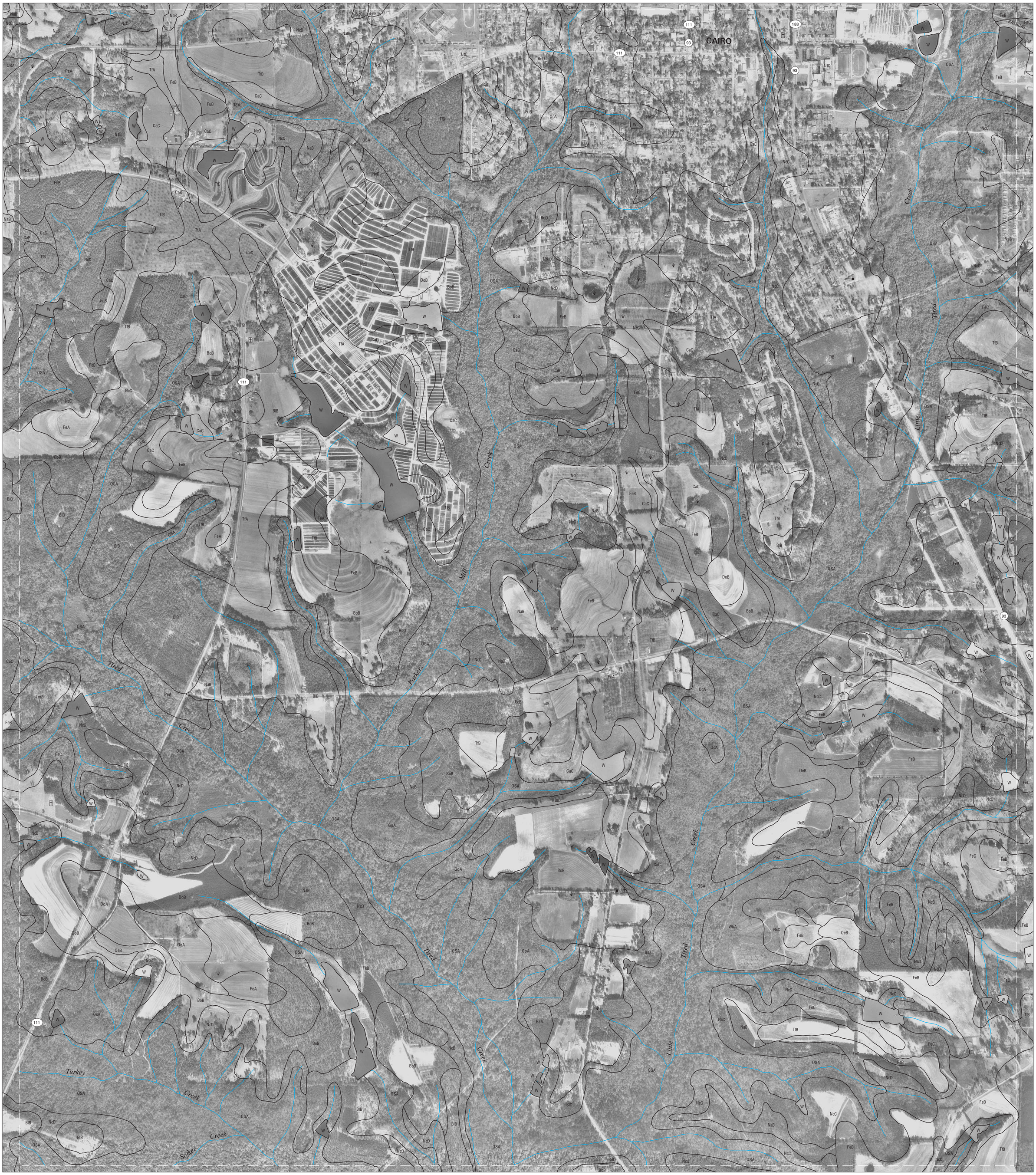
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
CAIRO SOUTH NW QUADRANGLE
SHEET NUMBER 25 OF 43

Joins sheet 18, Whigham SE
Joins sheet 19, Cairo North SW
Joins sheet 20, Cairo North SE
Joins sheet 24, Reno NE
Joins sheet 26, Cairo South NE
Joins sheet 30, Reno SE
Joins sheet 31, Cairo South SW
Joins sheet 32, Cairo South SE

84°15′00″ 84°11′15″

30°52′30″ 30°48′45″



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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

18	19	20
24		26
30	31	32

INDEX TO ADJOINING 3.75 MAPS

18 WHIGHAM SE
19 CAIRO NORTH SW
20 CAIRO NORTH SE
24 RENO NE
26 CAIRO SOUTH NE
30 RENO SE
31 CAIRO SOUTH SW
32 CAIRO SOUTH SE

CAIRO SOUTH NW, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 25 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
CAIRO SOUTH NE QUADRANGLE
SHEET NUMBER 26 OF 43

Joins sheet 19, Cairo North SW

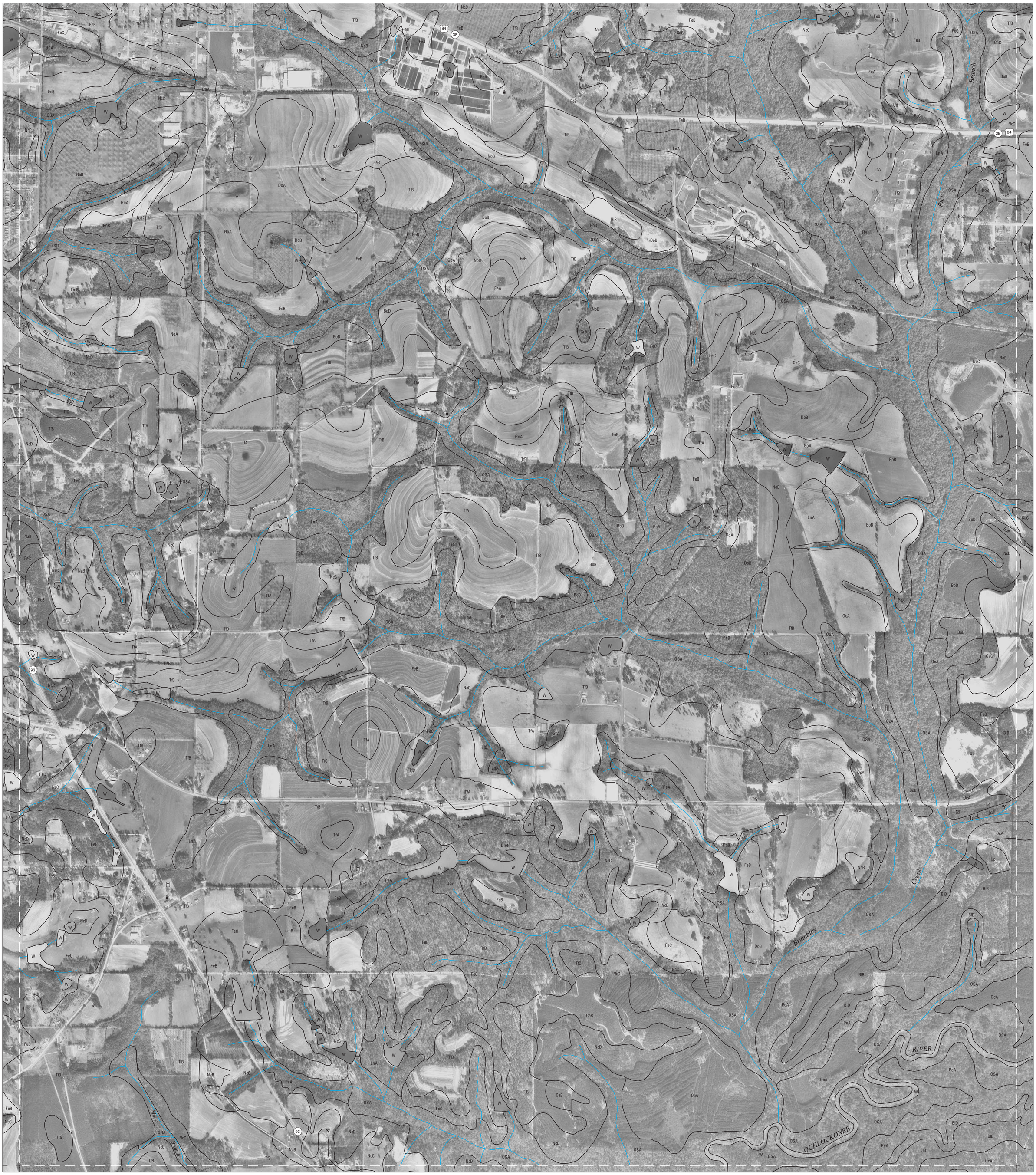
84°11'15"

Joins sheet 20, Cairo North SE

84°07'30"

Joins sheet 21, Ochlocknee SW

30°52'30"



Joins sheet 25, Cairo South NW

Joins sheet 27, Pine Park NW

30°48'45"

Joins sheet 31, Cairo South SW

84°11'15"

Joins sheet 32, Cairo South SE

84°07'30"

Joins sheet 33, Pine Park SW

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

19	20	21
25		27
31	32	33

19 CAIRO NORTH SW
20 CAIRO NORTH SE
21 OCHLOCKNEE SW
25 CAIRO SOUTH NW
27 PINE PARK NW
31 CAIRO SOUTH SW
32 CAIRO SOUTH SE
33 PINE PARK SW

INDEX TO ADJOINING 3.75 MAPS

CAIRO SOUTH NE, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 26 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
PINE PARK NW QUADRANGLE
SHEET NUMBER 27 OF 43

Joins sheet 20, Cairo North SE

84°07′30″

Joins sheet 21, Ochlocknee SW

84°03′45″

30°52′30″

30°48′45″

Joins sheet 32, Cairo South SE

84°07′30″

Joins sheet 33, Pine Park SW

84°03′45″

Joins sheet 26, Cairo South NE

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

20	21	20 CAIRO NORTH SE 21 OCHLOCKNEE SW
26		26 CAIRO SOUTH NE
32	33	32 CAIRO SOUTH SE 33 PINE PARK SW

INDEX TO ADJOINING 3.75 MAPS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993 and 1994 aerial photography. Cultural and hydrography annotation was acquired from the U.S. Department of Interior, Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

PINE PARK NW, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 27 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
CLIMAX SOUTH SE QUADRANGLE
SHEET NUMBER 28 OF 43

84°26'15"

Joins sheet 22, Climax South NE

84°22'30"

Joins sheet 23, Reno NW

30°48'45"

30°48'45"

DECATUR COUNTY

PeA
DoB
W
FuB
BoB
OSA
NcC
NcC
TfB
OSA
TfA
TfB
W
GrA
DoB
TfA
TfB
GrA
DoB
BoB
OSA
TfB
DoB
OSA
TfB
NcC
TfB
TfA
FuB
TfB
LnA
FuB
TfA
TfB
DoB
OSA
TfB
FuB
NaB
OSA
BlB

30°45'00"

30°45'00"

84°26'15"

84°22'30"

Joins sheet 29, Reno SW

Joins sheet 35, Calvary NW

Joins sheet 34, Havana North NE

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

	22	23	22 CLIMAX SOUTH NE 23 RENO NW
		29	29 RENO SW
	34	35	34 HAVANA NORTH NE 35 CALVARY NW

INDEX TO ADJOINING 3.75 MAPS

CLIMAX SOUTH SE, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 28 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
RENO SW QUADRANGLE
SHEET NUMBER 29 OF 43

Joins sheet 22, Climax South NE

Joins sheet 23, Reno NW

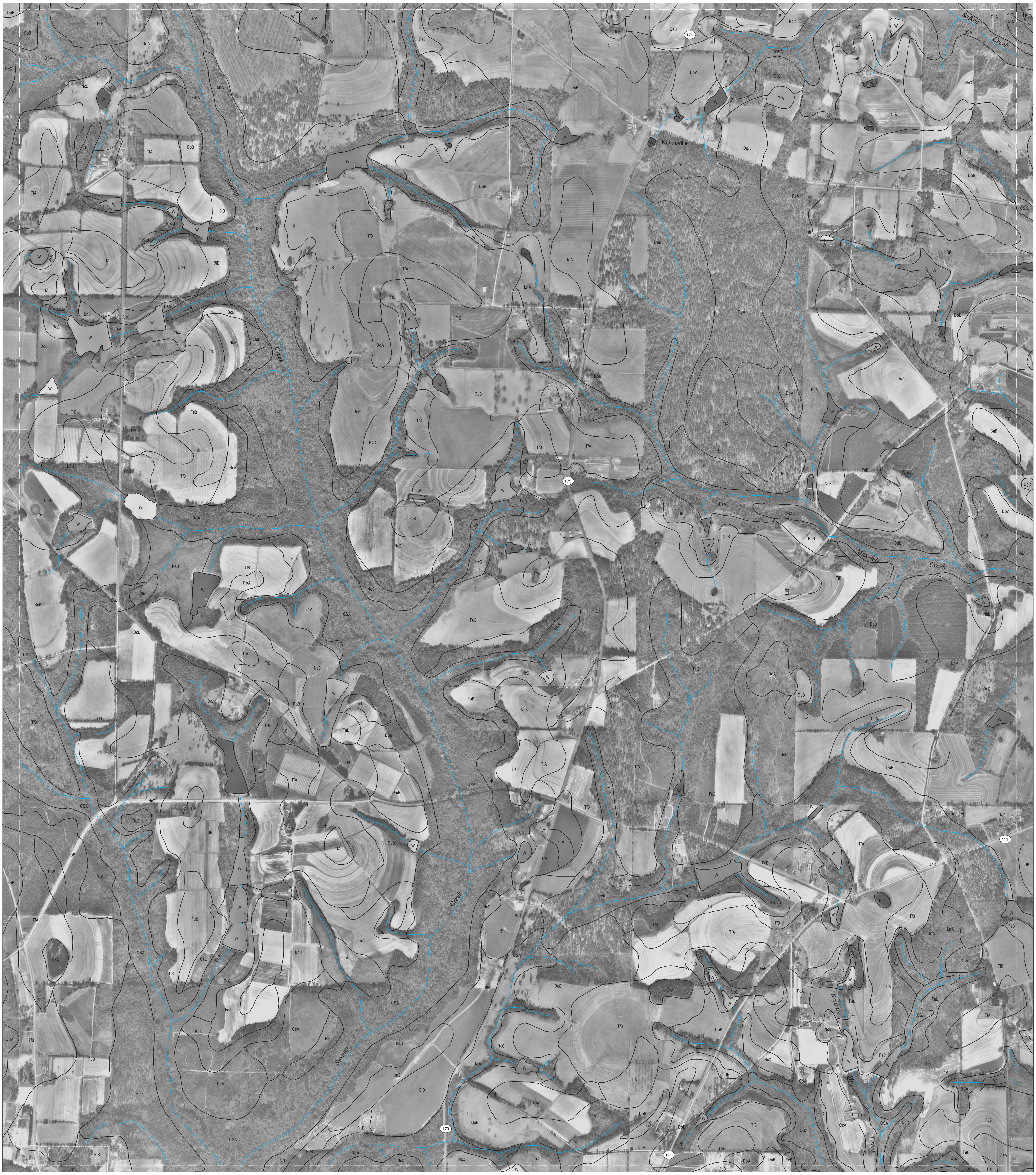
Joins sheet 24, Reno NE

84° 22′30″ 30° 48′45″

84°18′45″ 30° 48′45″

Joins sheet 28, Climax South SE

Joins sheet 30, Reno SE



30° 45′00″ 84° 22′30″

30° 45′00″ 84°18′45″

Joins sheet 34, Havana North NE

Joins sheet 35, Calvary NW

Joins sheet 36, Calvary NE

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

22	23	24
28		30
34	35	36

22 CLIMAX SOUTH NE
23 RENO NW
24 RENO NE
28 CLIMAX SOUTH SE
30 RENO SE
34 HAVANA NORTH NE
35 CALVARY NW
36 CALVARY NE

INDEX TO ADJOINING 3.75 MAPS

RENO SW, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 29 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

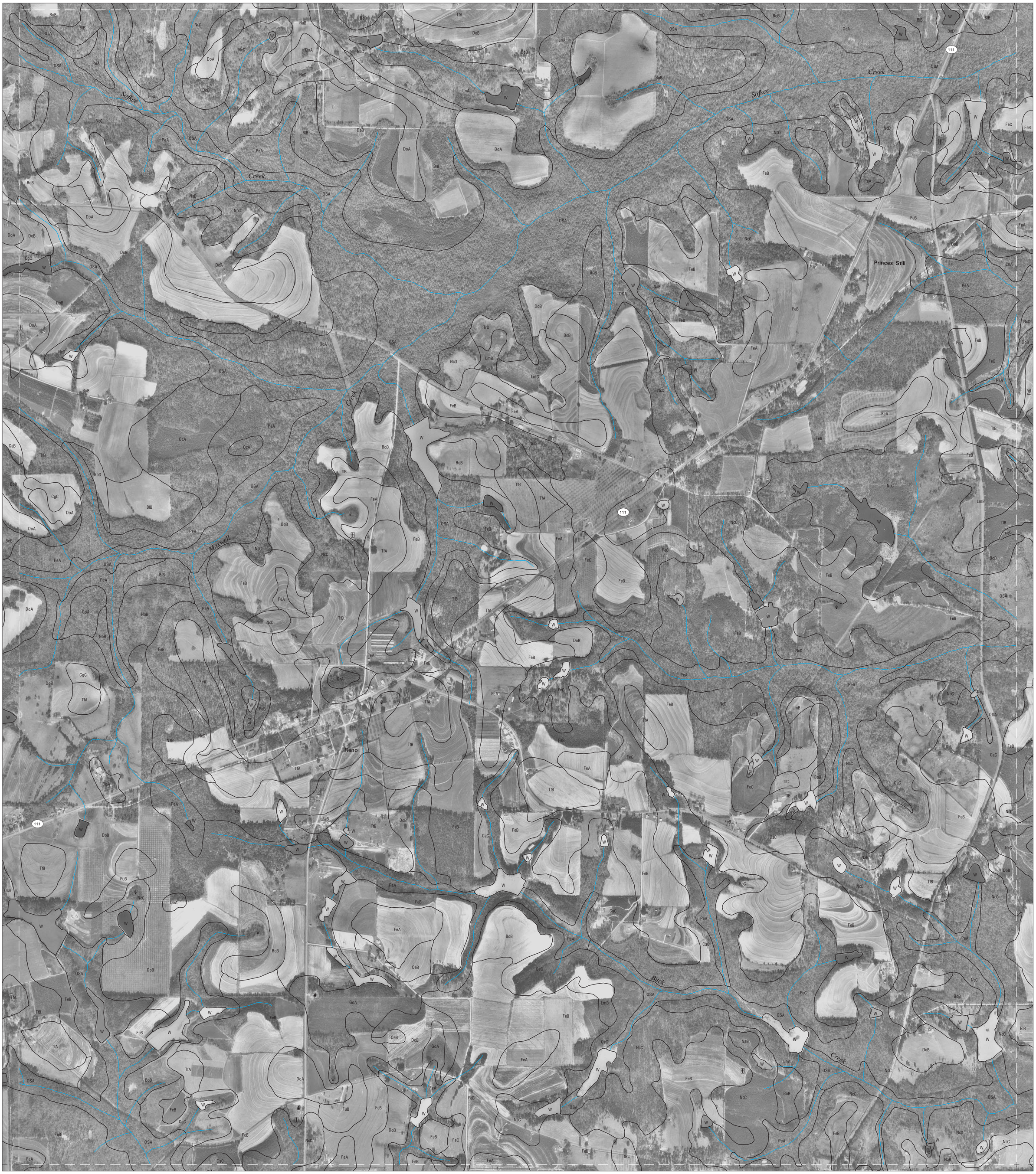
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
RENO SE QUADRANGLE
SHEET NUMBER 30 OF 43

84°18′45″ — 84°15′00″

30° 48′ 45″ — 30° 45′ 00″

Joins sheet 23, Reno NW
Joins sheet 24, Reno NE
Joins sheet 25, Cairo South NW
Joins sheet 29, Reno SW
Joins sheet 31, Cairo South SW
Joins sheet 35, Calvary NW
Joins sheet 36, Calvary NE
Joins sheet 37, Beachton NW



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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0,5 0 0,5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0,5 0 0,5
KILOMETERS

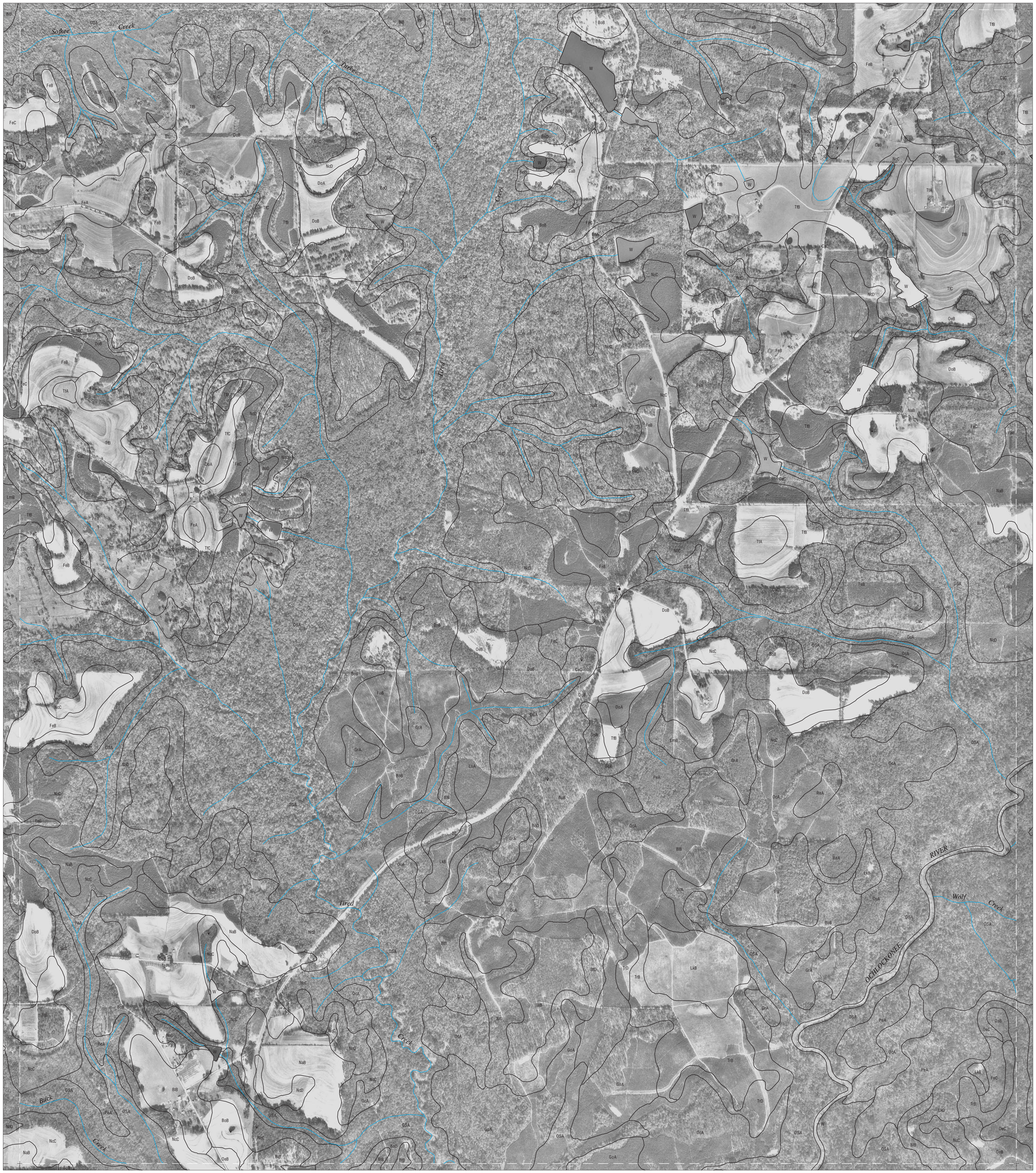
23	24	25
29		31
35	36	37

23 RENO NW
24 RENO NE
25 CAIRO SOUTH NW
29 RENO SW
31 CAIRO SOUTH SW
35 CALVARY NW
36 CALVARY NE
37 BEACHTON NW

INDEX TO ADJOINING 3.75 MAPS

RENO SE, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 30 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



SCALE 1:12000

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

24	25	26
30		32
36	37	38

24 RENO NE
25 CAIRO SOUTH NW
26 CAIRO SOUTH NE
30 RENO SE
32 CAIRO SOUTH SE
36 CALVARY NE
37 BEACHTON NW
38 BEACHTON NE

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CAIRO SOUTH SW, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 31 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
CAIRO SOUTH SE QUADRANGLE
SHEET NUMBER 32 OF 43

Joins sheet 25, Cairo South NW

84°11'15"

Joins sheet 26, Cairo South NE

84°07'30"

Joins sheet 27, Pine Park NW

30° 48'45"

30° 48'45"

Joins sheet 31, Cairo South SW

Joins sheet 33, Pine Park SW

30° 45'00"

30° 45'00"

Joins sheet 37, Beachton NW

84°11'15"

Joins sheet 38, Beachton NE

84°07'30"

Joins sheet 39, Miccosukee NE NW

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

25	26	27
31		33
37	38	39

25 CAIRO SOUTH NW
26 CAIRO SOUTH NE
27 PINE PARK NW
31 CAIRO SOUTH SW
33 PINE PARK SW
37 BEACHTON NW
38 BEACHTON NE
39 MICCOSUKEE NE NW

INDEX TO ADJOINING 3.75 MAPS

CAIRO SOUTH SE, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 32 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
PINE PARK SW QUADRANGLE
SHEET NUMBER 33 OF 43

84°07′30″ — 84°03′45″

30°48′45″ — 30°45′00″

Joins sheet 26, Cairo South NE

Joins sheet 27, Pine Park NW

Joins sheet 32, Cairo South SE

Joins sheet 38, Beachton NE

Joins sheet 39, Miccosukee NE NW

THOMAS COUNTY

Lake Creek

Ogeechee Creek

Walton Creek

319

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

26	27		26 CAIRO SOUTH NE 27 PINE PARK NW
32			32 CAIRO SOUTH SE
			38 BEACHTON NE 39 MICCOSUKEE NE NW
38	39		

INDEX TO ADJOINING 3.75 MAPS

PINE PARK SW, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 33 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
HAVANA NORTH NE QUADRANGLE
SHEET NUMBER 34 OF 43

84°26'15"

Joins sheet 28, Climax South SE

84°22'30"

Joins sheet 29, Reno SW

30°45'00"

30°41'15"

DECATUR COUNTY

GADSDEN COUNTY FLORIDA

Joins sheet 35, Calvary NW

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0,5 0 0,5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0,5 0 0,5
KILOMETERS

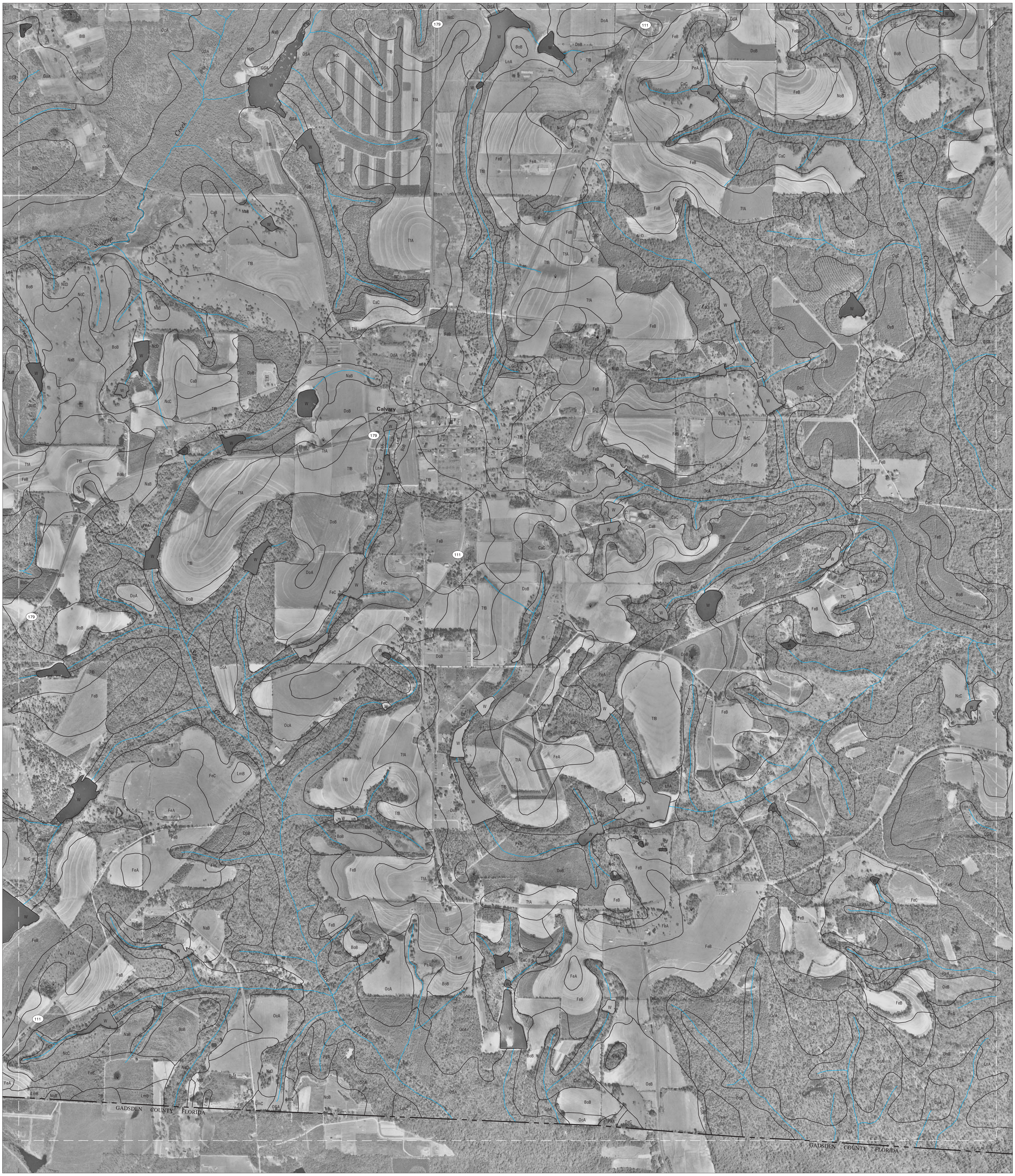
	28	29
		35

28 CLIMAX SOUTH SE
29 RENO SW
35 CALVARY NW

INDEX TO ADJOINING 3.75 MAPS

HAVANA NORTH NE, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 34 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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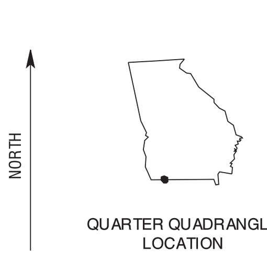
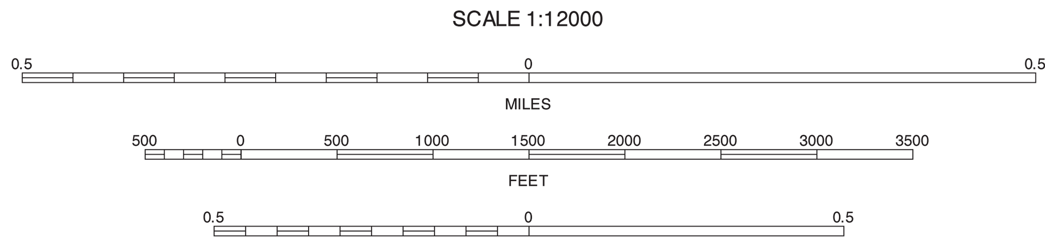
North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.





28	29	30
34		36
		40

28 CLIMAX SOUTH SE
29 RENO SW
30 RENO SE
34 HAVANA NORTH NE
36 CALVARY NE
40 CALVARY SE

INDEX TO ADJOINING 3.75 MAPS

CALVARY NW, (OVERSIZED) GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 35 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

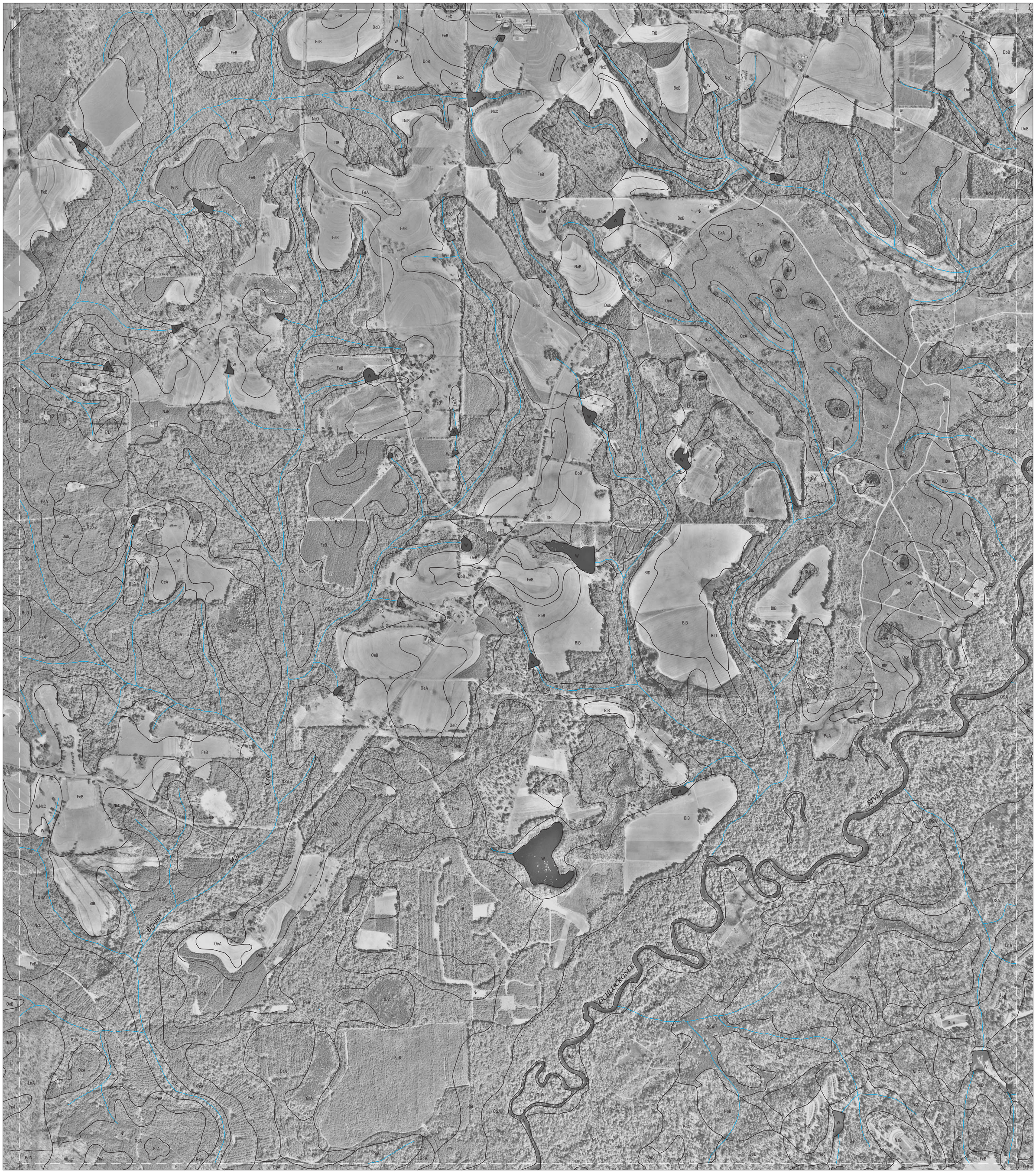
GRADY COUNTY, GEORGIA
CALVARY NE QUADRANGLE
SHEET NUMBER 36 OF 43

84°18′45″ — 84°15′00″ — 30° 45′00″ — 30° 41′15″

Joins sheet 29, Reno SW — Joins sheet 30, Reno SE — Joins sheet 31, Cairo South SW

Joins sheet 35, Calvary NW — Joins sheet 37, Beachton NW

Joins sheet 40, Calvary SE — Joins sheet 41, Beachton SW



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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

			29 RENO SW
29	30	31	30 RENO SE
			31 CAIRO SOUTH SW
35		37	35 CALVARY NW
			37 BEACHTON NW
	40	41	40 CALVARY SE
			41 BEACHTON SW

INDEX TO ADJOINING 3.75 MAPS

CALVARY NE, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 36 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
BEACHTON NW QUADRANGLE
SHEET NUMBER 37 OF 43

Joins sheet 30, Reno SE

Joins sheet 31, Cairo South SW

Joins sheet 32, Cairo South SE

30° 45′ 00″

84°15′00″

84°11′15″

Joins sheet 36, Calvary NE

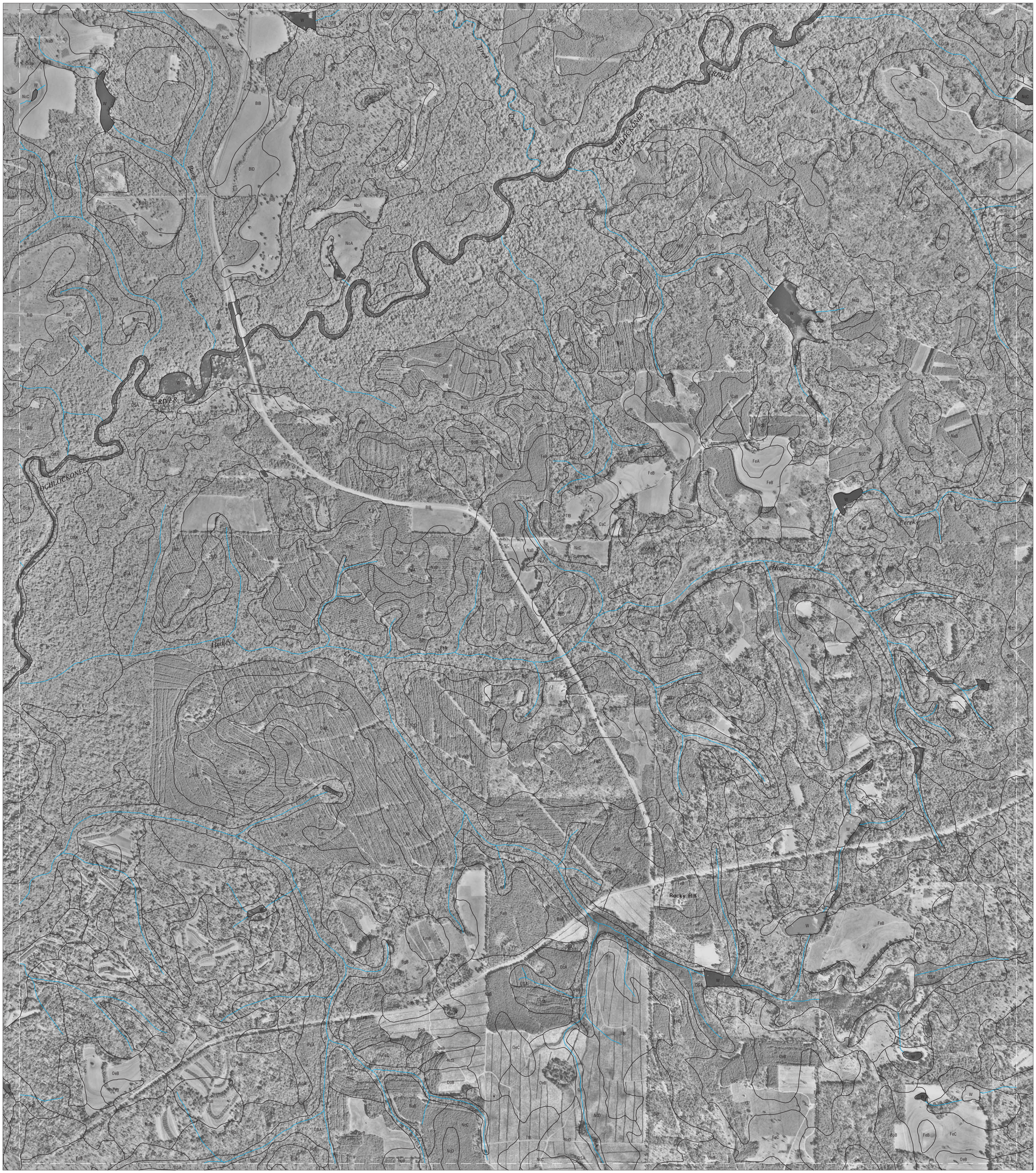
Joins sheet 38, Beachton NE

Joins sheet 40, Calvary SE

Joins sheet 41, Beachton SW

Joins sheet 42, Beachton SE

30° 41′ 15″



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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0,5 0 0,5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0,5 0 0,5
KILOMETERS

		30 RENO SE
30	31	31 CAIRO SOUTH SW
		32 CAIRO SOUTH SE
36	38	36 CALVARY NE
		38 BEACHTON NE
		40 CALVARY SE
40	41	41 BEACHTON SW
		42 BEACHTON SE

INDEX TO ADJOINING 3.75 MAPS

BEACHTON NW, GEORGIA

3.75 MINUTE SERIES
SHEET NUMBER 37 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
BEACHTON NE QUADRANGLE
SHEET NUMBER 38 OF 43

84°11'15"

84°07'30"

30°45'00"

30°41'15"

Joins sheet 31, Cairo South SW

Joins sheet 32, Cairo South SE

Joins sheet 33, Pine Park SW

Joins sheet 37, Beachton NW

Joins sheet 39, Miccosukee NE NW

Joins sheet 41, Beachton SW

Joins sheet 42, Beachton SE

Joins sheet 43, Miccosukee NE SW

Beachton

Michell Pond

Wolf Creek

SCALE 1:12000

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

31	32	33
37		39
41	42	43

31 CAIRO SOUTH SW
32 CAIRO SOUTH SE
33 PINE PARK SW
37 BEACHTON NW
39 MICCOSUKEE NE NW
41 BEACHTON SW
42 BEACHTON SE
43 MICCOSUKEE NE SW

INDEX TO ADJOINING 3.75 MAPS

BEACHTON NE, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 38 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

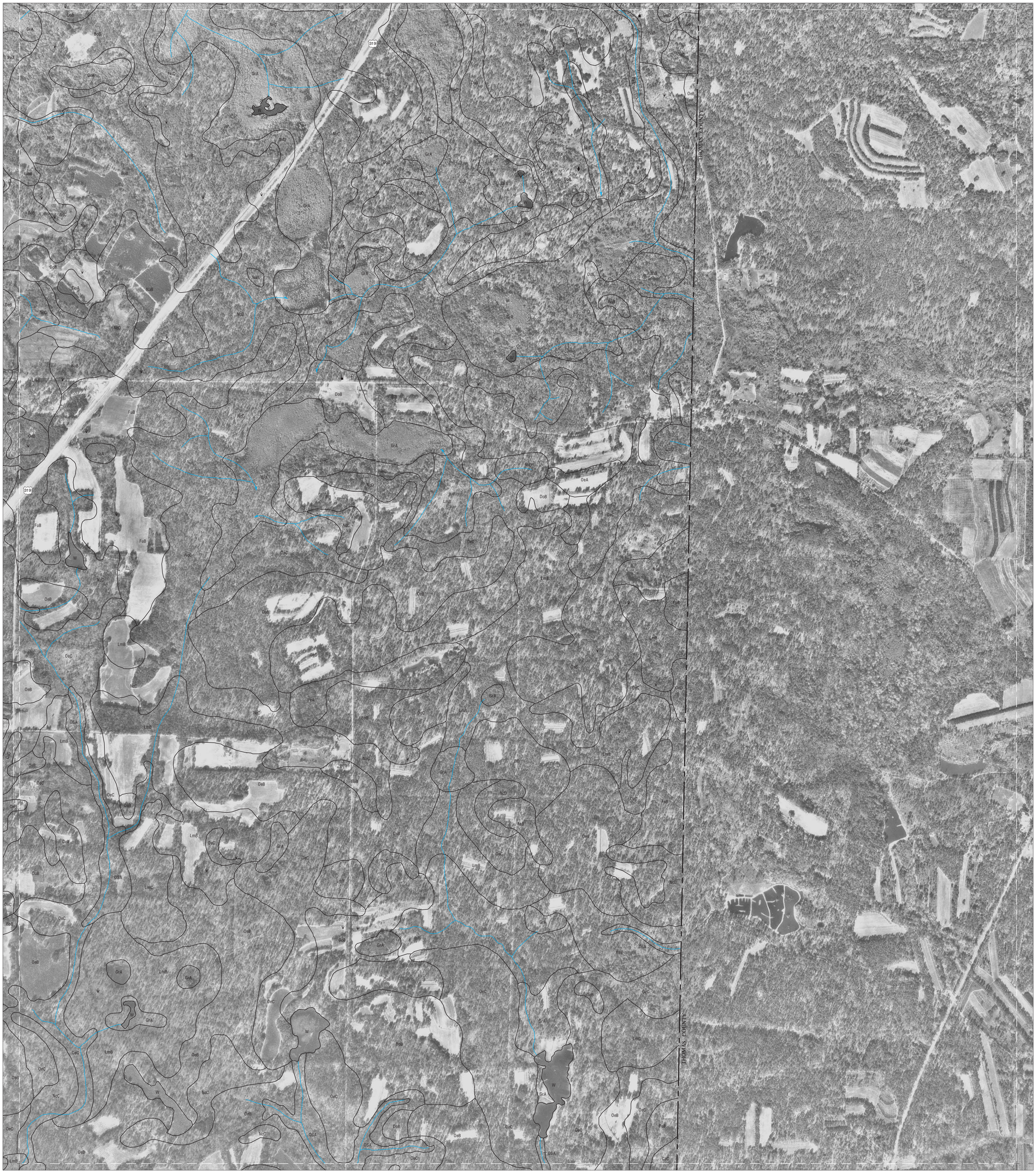
84° 07′ 30″

Joins sheet 33, Pine Park SW

GRADY COUNTY, GEORGIA
MICCOSUKEE NE NW QUADRANGLE
SHEET NUMBER 39 OF 43

84° 03′ 45″

30° 45′ 00″



30° 41′ 15″

Joins sheet 42, Beachton SE

84° 07′ 30″

Joins sheet 38, Beachton NE

Joins sheet 43, Miccosukee NE SW

84° 03′ 45″

30° 41′ 15″

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

32	33	32 CAIRO SOUTH SE 33 PINE PARK SW
38		38 BEACHTON NE
42	43	42 BEACHTON SE 43 MICCOSUKEE NE SW

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MICCOSUKEE NE NW, GEORGIA
3.75 MINUTE SERIES
SHEET NUMBER 39 OF 43

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
CALVARY SE QUADRANGLE
SHEET NUMBER 40 OF 43

Joins sheet 35, Calvary NW

Joins sheet 36, Calvary NE

Joins sheet 37, Beachton NW

84°18′45″

84°15′00″

30° 41′15″

30° 37′30″

GADSDEN COUNTY FLORIDA

LEON COUNTY FLORIDA

Joins sheet 41, Beachton SW

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

			35 CALVARY NW
35	36	37	36 CALVARY NE
			37 BEACHTON NW
		41	41 BEACHTON SW

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CALVARY SE, GEORGIA
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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
BEACHTON SW QUADRANGLE
SHEET NUMBER 41 OF 43

Joins sheet 36, Calvary NE

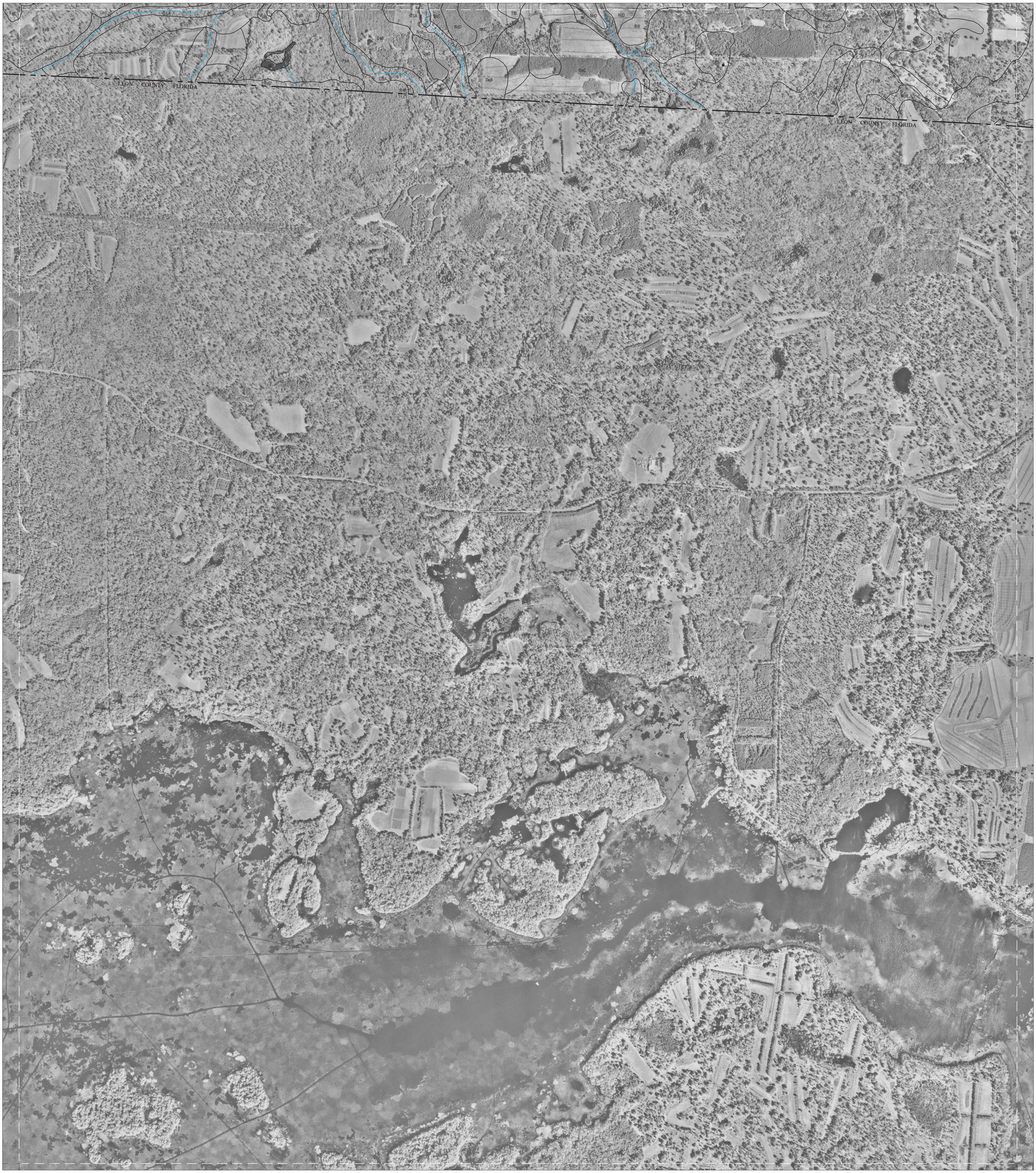
84°15′00″

Joins sheet 37, Beachton NW

84°11′15″

Joins sheet 38, Beachton NE

30° 41′15″



30° 41′15″

Joins sheet 40, Calvary SE

Joins sheet 42, Beachton SE

30° 37′30″

84°15′00″

84°11′15″

30° 37′30″

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

			36 CALVARY NE
36	37	38	37 BEACHTON NW
			38 BEACHTON NE
40		42	40 CALVARY SE
			42 BEACHTON SE

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DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
BEACHTON SE QUADRANGLE
SHEET NUMBER 42 OF 43

84°11'15"

84°07'30"

Joins sheet 37, Beachton NW

Joins sheet 38, Beachton NE

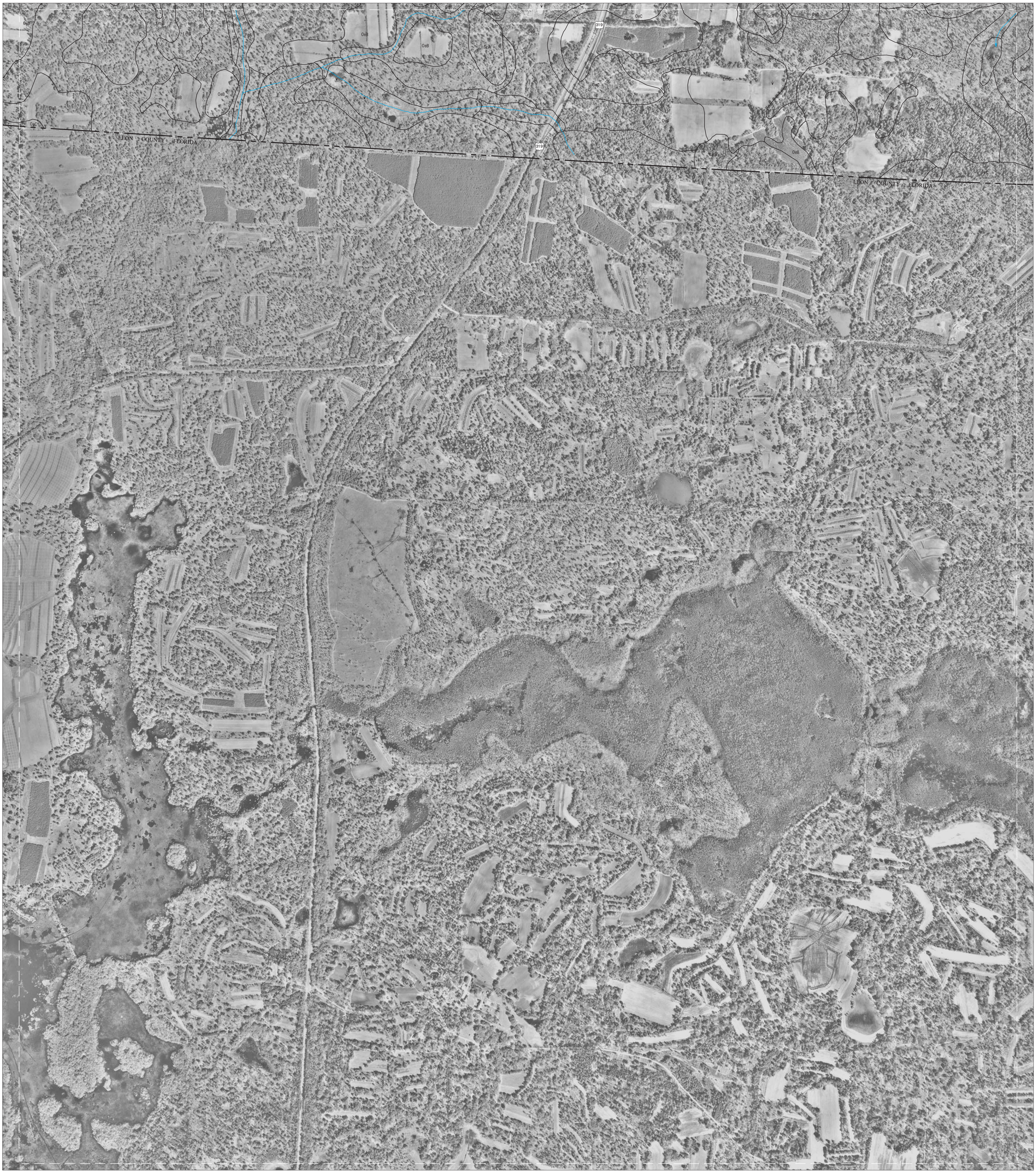
Joins sheet 39, Miccosukee NE NW

Joins sheet 41, Beachton SW

Joins sheet 43, Miccosukee NE SW

30°41'15"

30°37'30"



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0,5 0 0,5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0,5 0 0,5
KILOMETERS

37	38	39
41		43

37 BEACHTON NW
38 BEACHTON NE
39 MICCOSUKEE NE NW
41 BEACHTON SW
43 MICCOSUKEE NE SW

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UNITED STATES
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NATURAL RESOURCES CONSERVATION SERVICE

GRADY COUNTY, GEORGIA
MICCOSUKEE NE SW QUADRANGLE
SHEET NUMBER 43 OF 43

84° 07′ 30″ — 84° 03′ 45″

Joins sheet 39, Beachton NE

Joins sheet 39, Miccosukee NE NW

30° 41′ 15″ — 30° 41′ 15″

LEON COUNTY FLORIDA

LEON COUNTY FLORIDA

THOMAS COUNTY

Joins sheet 42, Beachton SE

30° 37′ 30″ — 30° 37′ 30″

84° 07′ 30″ — 84° 03′ 45″

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North American Datum of 1983 (NAD83). GRS-80 Spheroid Universal Transverse Mercator, zone 16.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0,5 0 0,5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0,5 0 0,5
KILOMETERS

38	39	38 BEACHTON NE 39 MICCOSUKEE NE NW
42		42 BEACHTON SE

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